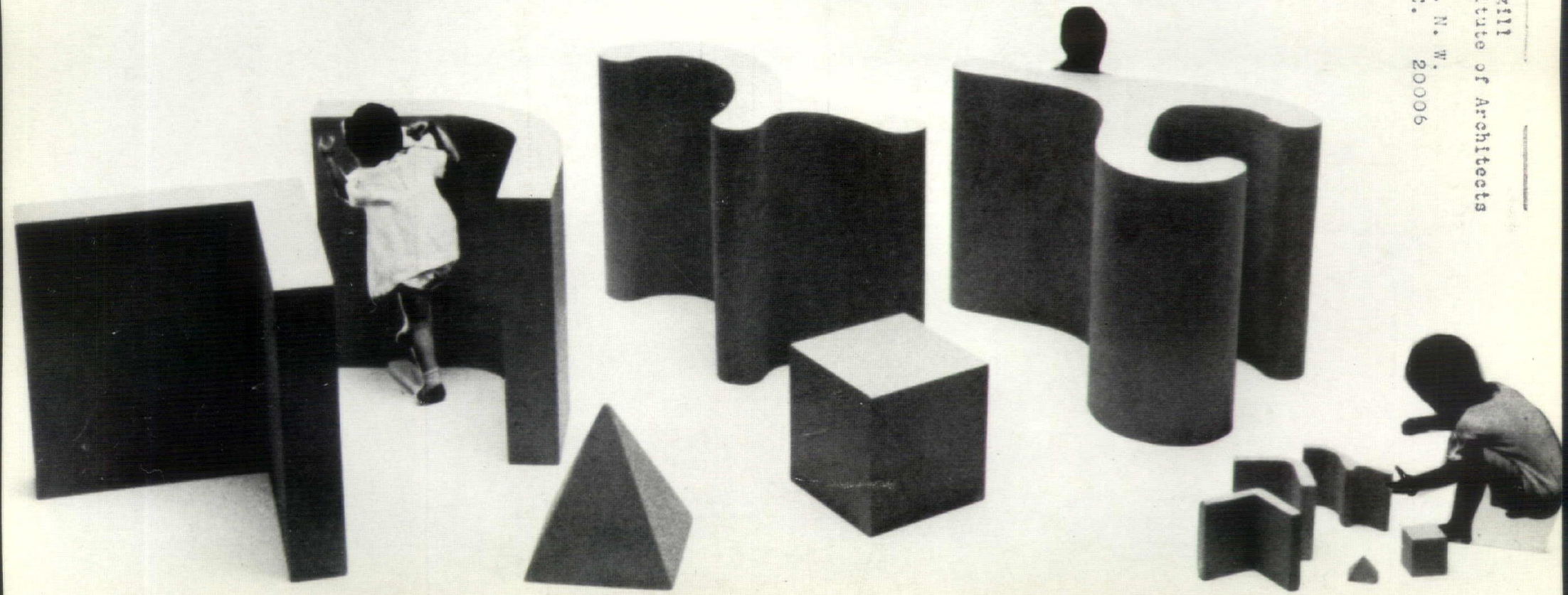
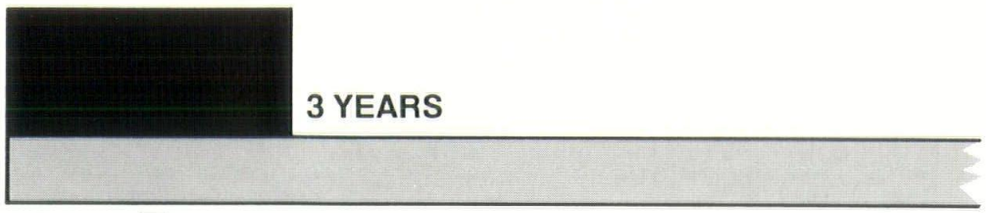
ARCHITECTURE NJ. 3-77

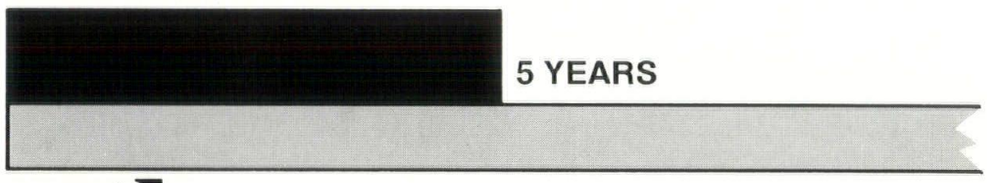


Architectural Education in New Jersey

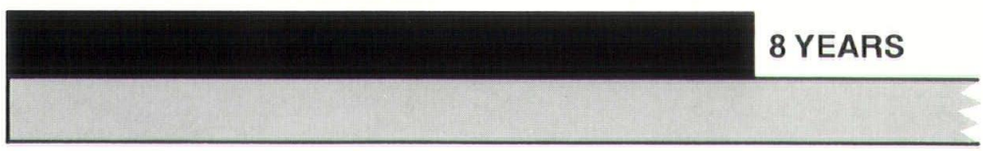
New Jersey Bell's New Payment Plans Offer You One Choice...



after another...



after another...



after another...

In addition to the traditional way of billing for telephone equipment, New Jersey Bell now offers New Jersey businesses a *choice* of payment plans for most of our newest systems. For example, if you'd like to pay off more of your costs during the first several years your new system is installed, and then pay a lower rate from that point on, we have the plan for you. Ask us about the choices we offer.

Talk to the professional. Your New Jersey Bell Account Representative is your professional ally in total systems planning to solve business problems:

- To evaluate your operation and your existing system.
- Literally to climb inside your business and help you identify specific concerns and needs.
- To suggest solutions that you may not have considered in the context of communications.

Then, our representative will help coordinate the appropriate equipment, features and programs which offer solutions that meet your needs, and show you how to use your system most efficiently and profitably.

Finally, your Account Representative will explain the options you have to pay for your system in line with your long or short range financial goals.

To find out how modern business systems solutions can be put to work for you, just call your New Jersey Bell Account Representative at your Telephone Business Service Center.

The system is the solution. New Jersey Bell

Official Publication of
NEW JERSEY SOCIETY OF ARCHITECTS

A Region of The American Institute of Architects
110 Halsted Street, East Orange, N.J. 07018
(201) 672-7900-7901-7310

ARCHITECTURE new jersey is the official publication of New Jersey Society of Architects, a Region of The American Institute of Architects, and is the only architectural publication in the state. The purpose of the quarterly publication is to advance an increased public awareness of our visual environment. It carries news, articles and representations of buildings of current interest.
3,600 copies are distributed to every member of the N.J. Society of Architects, consulting engineers, people in related fields and others whose fields of interest include Architecture, such as leaders in business, commerce, industry, banking, education, religion and government at all levels.
Views and opinions expressed in ARCHITECTURE new jersey are those of the writers and not necessarily those of the New Jersey Society of Architects.

Subscription: $6 per year
Controlled Circulation
East Orange, N.J.
Printed by White Eagle Printing.

ARCHITECTURE
new jersey

Vol. 11 No. 3 July/Aug./Sept. 1977

COVER:
An experiment by NJIT student Alex Levitsky to determine how children build to scale using table-top and full-size elements; NJIT Course: Spatial ABC-s.

Viewpoints

FRIVOLOUS LAWSUITS LEGISLATION SUPPORTED

BY J. ROBERT GILCHRIST, AIA

Legislation which would ease over-crowding of New Jersey court calendars by discouraging the filing of so-called "frivolous" lawsuits against professionals has been adopted by the New Jersey State Senate.

Originally proposed by the New Jersey Society of Architects (NJSA), this vital legislation will be considered by the New Jersey Assembly in the fall. NJSA encourages prompt action by the Assembly Judiciary Committee to bring the bill before the entire Assembly for a favorable vote.

After passing the Senate in July by a unanimous vote of 27-0, prospects for prompt passage in the Assembly appear to be very good. We urge every architect, and all professionals in the state, to write to their Assemblymen asking them to vote favorably on this important legislation.

Originally sponsored by then Senator John Horn, Senate Bill #1595 would permit judges to dismiss groundless third-party lawsuits brought against professionals when there is no legal basis for a cause of action, and provides for the award of court costs and attorney's fees to defendants. When the legislation was originally written by the NJSA, it was formulated to protect architects only. In the Senate, the bill was amended to widen protection to include all professionals in the state. NJSA supports this added protection, and calls on all professionals to support this positive legislation.

The measure is actively supported by the Building Contractors Association of New Jersey, Northern New Jersey Chapter, Inc.; National Electrical Contractors Association; New Jersey Association of Osteopathic Physicians and Surgeons; New Jersey Builders Asociation; Medical Society of New Jersey; New Jersey Hospital Association; New Jersey State Nurses' Association; New Jersey Podiatry Society; Bergen County Medical Society; New Jersey Dental Society; and Mechanical Contractors Association of New Jersey, Inc.

The bill, moved by Senator Raymond Zane (D-Gloucester), is designed to curb the filing of "frivolous" lawsuits while protecting the right of a plaintiff to institute suit where there is a valid reason. Frequently, their suits are filed with the hope that professionals will agree to an out-of-court settlement to avoid the expense and publicity generated by a protracted court action. Expenses in the defense of groundless suits are generally not now recoverable or reimbursible under professional liability insurance policies.

Senate Bill 1595 seeks to avoid the filing of groundless lawsuits by setting standards of investigation by which judges can assess the validity of charges. The court would also determine "reasonable" attorney's fees by taking into account the amount of investigation done to substantiate claims of liability, the financial circumstances of the parties involved, and whether the party has prosecuted or defended the case in bad faith or abused the procedure set forth in the Rules of Court. The judge would also consider the nature and extent of the claim and whether any new or novel issues or theories of law are advanced by the plaintiff.

NEW STATE DEPARTMENT OF ENERGY PRAISED

BY RICHARD BOTTELLI, AIA

The creation of New Jersey's cabinet level Department of Energy signals a unique state government commitment to our nation's energy problems. The first of its kind in the country, the energy office will provide resources for a coordinated effort to shape energy policy for New Jersey's future.

With offices in Newark, the new Department of Energy (D.O.E.), created this July, comprises several existing state agencies including the original State Energy Office and the Public Utilities Commission. To consolidate all energy functions in the D.O.E., a study is now being undertaken to identify energy matters presently handled by other state agencies. This study will be completed by next January.

According to Ron Reisman, Executive Assistant for the D.O.E., a comprehensive State Energy Master Plan will be formulated by July 1978. Public hearings will be held throughout the state to solicit ideas for inclusion in the Master Plan, which will formulate energy goals for the next ten years. Invitations have been sent out to numerous public and private organizations to encourage their participation in the new Energy Master Plan. The New Jersey Society of Architects has been invited to participate and submit ideas for the Plan.

Energy incentive programs now being administered by the D.O.E. include solar hot water heating grants, to be awarded in November. The D.O.E. also requires all public utility companies in the state to sponsor free and low-interest loans for residential consumers who increase their home insulation. The D.O.E. supports solar energy legislation now pending in Trenton to exempt installed solar equipment from the sales tax and the property tax.

While the new department receives no extra state funds at this time, aside from the budgets of its component agencies, the D.O.E. is actively seeking supplementary federal funding. Recently, the Federal Energy Administration announced a $685,000 grant for the D.O.E., and the new department hopes to work closely with its national counterpart in the future.

During the last few years the New Jersey Society of Architects has been active in the energy field with its members represented on a number of advisory committees and study groups. Its work in the field of code development and continuing education for energy conscious building design is well-documented. The Society now looks forward to working with Commissioner Joel Jacobson and his staff in developing creative approaches to energy conservation which utilize marketplace incentives. Tax credits for investments in building energy efficiency, and tax or utility rate relief for building operating performance which exceeds energy conscious standards are areas which should receive immediate attention.

With approximately one-third of the nation's energy consumed in building occupancy and operations, the design professions are unusually well positioned to assist in achieving energy conservation goals. We look forward to the challenge.

STATE ENERGY CODE IS REGULATORY TYPE

BY TERRY H. PARKER, AIA

After much consideration, a new state Energy Conservation Code has been proposed to go into effect this fall.

The new code is a regulatory type, and therefore will probably inhibit designers from creating innovative solutions to energy conservation problems in buildings. While the new code is not the best energy standard for designers, it will provide New Jersey with a national-based energy code, which will satisfy state requirements.

In the future, there is a possibility that better performance type standards may be adopted. The American Institute of Architects Research Corporation, in Washington, D.C., is now developing such performance type standards for a National Energy Code under a contract with the federal Department of Housing and Urban Development. Unfortunately, this code will not be ready until 1980.

On July 20, 1977, Patricia Q. Sheehan, Commissioner of Community Affairs in New Jersey, announced the intent to adopt the BOCA Basic Energy Conservation Code, First Edition, 1977, and the I.E.S. Standard EMS-1:Lighting Power Budget Determination Procedure, of the Illuminating Engineering Society. Basically, these two documents are codifications of ASHRAE Standard 90-75.

The announced effective date of the Energy Code is October 1, 1977. It is likely, however, that this date may be pushed back to January 1, 1978 due to the difficulty of establishing an enforcement procedure by the October date.

The ASHRAE Standard 90-75 is listed in the Appendix of the BOCA Energy Code as a standard of acceptable engineering practice and is, therefore, definitive of the requirements that are not specifically defined in the Energy Code itself.

There is currently no Mechanical Sub-Code of the State Uniform Construction Code. A subcommittee is meeting to discuss which code should be adopted. The front runner appears to be the BOCA Basic Mechanical Code 1975 with its 1976 Supplement. There has been no discussion of an effective date for the adoption of the Mechanical Code. However, in the process of design, the BOCA Basic Mechanical Code, 1975 Edition is listed as a standard of accepted engineering practice in Appendix B of the BOCA Building Code, and therefore should be complied with until the new Mechanical Code is adopted.

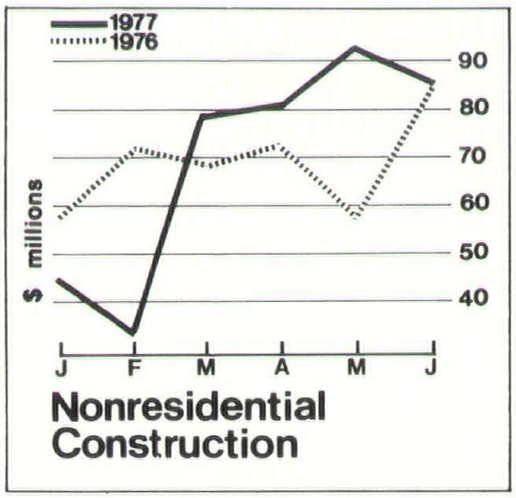
Copies of all of these codes are available from the headquarters of the New Jersey Society of Architects.

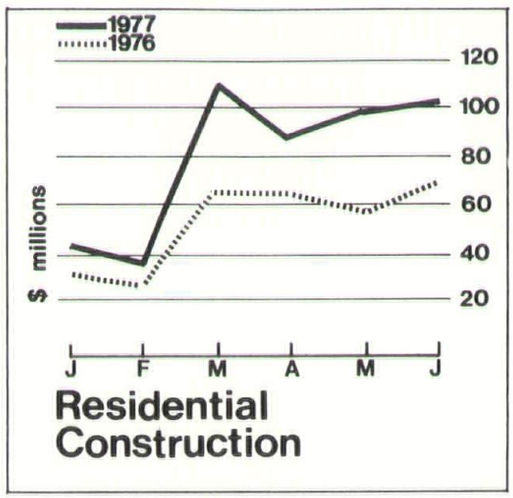
Outlook

ALAN SPECTOR, AIA

Statewide Construction Activity

	April '77	May '77	June '77	Year to Date Totals (5) 1977	1976	Percent Changes From 1976
Nonresidential (1)	80,097,000	92,987,000	85,969,000	406,433,000	415,559,000	Minus 2%
Residential (2)	87,111,000	97,271,000	100,359,000	479,096,000	316,744,000	Plus 51%
TOTAL BUILDING	167,208,000	190,258,000	186,328,000	885,529,000	732,303,000	Plus 21%





Construction Activity by Counties (3)

	April '77	May '77	June '77	Year to Date Totals (5) 1977	1976	Percent Change from 1976
ATLANTIC COUNTY						
Nonresidential	538,000	145,000	368,000	3,621,000	6,885,000	Minus 47%
Residential	2,199,000	2,440,000	2,176,000	9,703,000	9,446,000	Plus 3%
TOTAL BUILDING	2,737,000	2,585,000	2,544,000	13,324,000	16,331,000	Minus 18%
CUMBERLAND COUNTY						
Nonresidential	2,401,000	574,000	937,000	4,208,000	13,296,000	Minus 68%
Residential	1,436,000	1,244,000	1,184,000	6,437,000	5,261,000	Plus 22%
TOTAL BUILDING	3,837,000	1,818,000	2,121,000	10,645,000	18,557,000	Minus 43%
HUDSON COUNTY						
Nonresidential	4,847,000	1,332,000	3,710,000	10,837,000	30,958,000	Minus 65%
Residential	398,000	9,399,000	188,000	30,508,000	3,645,000	Over 100%
TOTAL BUILDING	5,245,000	10,731,000	3,898,000	41,345,000	34,603,000	Plus 19%
MERCER COUNTY						
Nonresidential	400,000	8,199,000	5,058,000	22,860,000	36,526,000	Minus 37%
Residential	5,466,000	3,231,000	3,832,000	16,005,000	14,065,000	Plus 14%
TOTAL BUILDING	5,866,000	11,420,000	8,890,000	38,865,000	50,591,000	Minus 23%
MIDDLESEX COUNTY						
Nonresidential	5,490,000	5,803,000	6,226,000	34,023,000	40,978,000	Minus 17%
Residential	5,956,000	4,209,000	11,610,000	45,175,000	25,166,000	Plus 80%
TOTAL BUILDING	11,446,000	10,012,000	17,836,000	79,198,000	66,144,000	Plus 20%
MONMOUTH COUNTY						
Nonresidential	1,112,000	18,997,000	3,740,000	45,615,000	25,168,000	Plus 81%
Residential	7,401,000	10,126,000	10,453,000	46,045,000	32,980,000	Plus 40%
TOTAL BUILDING	8,513,000	29,123,000	14,193,000	91,660,000	58,148,000	Plus 58%
PASSAIC COUNTY						
Nonresidential	2,201,000	1,752,000	11,624,000	22,600,000	11,405,000	Plus 98%
Residential	1,697,000	7,045,000	1,863,000	13,612,000	10,916,000	Plus 25%
TOTAL BUILDING	3,898,000	8,797,000	13,487,000	36,212,000	22,321,000	Plus 62%

FOOTNOTES:

(1) Nonresidential buildings include commercial, manufacturing, educational, religious, administrative, recreational, and other buildings not designed for shelter.

(2) Residential buildings include houses, apartments, motels, dormitories, and other buildings designed for shelter.

(3) Statistics for selected counties shown are based on figures derived from standard metropolitan areas within the counties.

(4) All statistics are based on monthly reports of contracts for future construction, prepared by F.W. Dodge Division of McGraw-Hill Information Systems Co.

(5) Cumulative figures for "Year-to-Date Totals" reflect adjustments not distributed to the individual months.

For the first six months of 1977, residential construction in New Jersey has leaped 51% ahead of the 1976 pace. Residential construction has been continuously above the 1976 rate, with an especially marked steady rise since April.

Not such a bright picture has been portrayed by nonresidential construction in the state. After starting the year poorly, nonresidential construction moved sharply upwards at the end of the first quarter. Since then, however, nonresidential construction has fallen to nearly the same uninspiring rate as in 1976. For the first six months of 1977, nonresidential construction is actually 2% below the rate for the previous year.

According to the New Jersey Department of Labor and Industry, the positive trend in residential construction can be attributed to such factors as ample mortgage money, reduced interest rates, a substantial rate of new family formations and inflation-hedge buying. In contrast, however, industrial and public construction has been lagging considerably behind the residential pace.

Forecast

National economic indicators compiled by the New Jersey Department of Labor and Industry point to general uneasiness about prospects for the second half of 1977. Most private economic forecasters expect the rate of economic growth to slow down from its torrid pace of the first half of the year, and foresee housing starts to register modest further gains through the first quarter of 1978, and then level off.

In New Jersey, economic indicators show a mostly favorable picture for the rest of the year. While building activity has had an encouraging start this year, there is a long way to go before the construction industry is restored to health. As reported in "New Jersey Economic Indicators," currently there is not nearly enough activity on the drawing boards to support an early return to the boom conditions of 1973.

On the positive side is a report by Joseph J. Keiling, Chairman of the Board of Brown's Letters, Inc. According to Mr. Keiling, numerous industrial manufacturing, warehouse, and distribution facilities are being planned as a result of the recent approval of nineteen new financings by the New Jersey Economic Development Authority. In addition, Mr. Keiling advises that several department store, hospital, and educational facilities are presently being planned throughout the state.

As indicated by the monthly statistics, the principal weakspot in construction activity is the continued paucity of new nonresidential and public construction projects. There are prospects that this situation may change for the better as the year progresses thanks to federal public works projects, anticipated building activity as Atlantic City gears up for casino gambling, and a continued shrinkage of available industrial and commercial floor space.

NEW JERSEY SCHOOL OF ARCHITECTURE: An Overview

BY HARLYN E. THOMPSON AIA, DEAN

Editor's Note: This year the N.J. School of Architecture graduated its first group of five year students. To commemorate the occasion we have invited the Dean and the faculty of the School to use the pages of our publication to review the historical events that led to the establishment of the school and to express their views on architecture and architectural education.

Historical Review: New Jersey's first state-supported school of architecture was authorized at the Newark College of Engineering in March, 1973, by a decision of the State Board of Higher Education. This action culminated the efforts of a number of people all of whom were brought together by a common goal — New Jersey needed a public professional school of architecture. Beginning in 1958 the architectural profession, as represented by the New Jersey Society of Architects, actively advocated the creation of a public School of Architecture in the State of New Jersey. In July of 1970 the Chancellor of Higher Education appointed an advisory committee chaired by Bernard J. Grad, FAIA, to study the establishment of a state architectural school in New Jersey. Their report was submitted in January of 1971. The report of the Chancellor's Committee firmly delineated the feasibility and need for the new school, recommended possible program formats and strongly advocated location of the school in Newark.

In 1972 the New Jersey Society of Architects through its N.J. School of Architecture committee chairman Harry B. Mahler, AIA, asked the American Institute of Architects (AIA) Department of Education and Research to appoint an independent and nationally representative new school advisory committee to further study the basic feasibility, optimum location and general nature of the proposed school of architecture. The report of the AIA New Jersey School Advisory Committee, issued in May of 1972, included the following specific recommendations:

— An architecture school should be established
— Newark is the most appropriate location for the new school
— The new program should be structured so students may enter at the third year level from a variety of two-year preparatory paths
— The initial program should offer a Bachelor of Architecture degree at the end of five years with other degree options and graduate programs developed as soon as possible.

In January of 1973 Newark College of Engineering made its formal proposal to the State Board of Higher Education. The proposal was revised in March and subsequently approved by the Board. The following points were included in the approved proposal:

— A School of Architecture with equal administrative status with the School of Engineering
— A 2 + 3 curriculum format
— Target enrollment and faculty size
— An estimated preliminary budget
— A program making full use of resources of all Council for Higher Education in Newark Institutions

The Council for Higher Education in Newark (CHEN), administered by a Director, was established for the purpose of encouraging cooperation and collaboration between the Newark Institutions..NCE, Rutgers-Newark, the College of Medicine and Dentistry of N.J. and Essex County College..all within a few blocks of each other. It was funded, until 1975, by the N.J. Dept. of Higher Education. Even though the CHEN office closed after state funding was eliminated, the New Jersey School of Architecture still supports the "spirit" of CHEN.

As an example of the positive benefits of inter-institutional cooperation, NJSOA student may cross-register for courses within the normal load distribution without paying additional tuition.

In 1975, partly due to its now broader educa tional mission (which now included the Scho of Architecture) and partly due to a promise had made to the New Jersey Society of Archite (NJSA) for its support, NCE officially beca the New Jersey Institute of Technology. Un ficially, before the institution changed its na the school of architecture, with the blessing NCE's President Hazell, became the New Je School of Architecture.

Immediately after the architecture school authorized, a search committee was forme select a dean for the new school. In keeping the cooperative nature of the school's esta ment, the committee represented the C schools, the Rutgers' urban planning pr and the New Jersey Society of Architects.

Need: The need for a state supported of architecture had been established in th 1970's. Both the report of the Chancellor' mittee in 1971 and the AIA New Jersey Advisory Committee report in 1972 do the need for this new professional degree p

The reports outline the demands plac architects and other environmental desi meet the nation's growing number and i complexity of environmental problems lated social concerns. The need for desig sionals is apparent in most sections of try including New Jersey. To meet th needs of projected U.S. population in 30 years, architects will be called upon as many facilities as Americans have in the 200 years since the signing of t tion of Independence. What was not these early reports was the economi that New Jersey and the region has almost from the School's inception.

The reports further point out tha tunities for professional architectur were very limited prior to the establis School of Architecture at NCE. P

versity — private, expensive to attend and highly limited in enrollment — is still the only other institution in the state offering a professional degree program in architecture. Princeton does not serve the needs of N.J. residents desiring architectural education. In September of 1971, there were no New Jersey students enrolled in Princeton's School of Architecture. Students had no choice but to leave New Jersey and pay out-of-state tuition and fees to obtain a professional degree.

Research by the NJSA shows that students usually do not return to practice in New Jersey, depriving the state of much of the talent needed to face the growing range of environmental and social problems.

Focus and Objectives of the Program: The program at NJSOA considers a wide variety of environmental problems — certainly more than just buildings. The solution to a human environmental problem might be in choosing a site, or opening undeveloped land to its best and most appropriate uses, or in keeping that land in its natural state.

The scope of a problem might be as limited as a piece of furniture or a room; alternatively, it might be as broad as an entire neighborhood, a central business district or even an entire community or city. The designer's solution might be preserving or adaptively using existing elements of the built environment which are currently misused or discarded.

As the largest city of America's most densely populated state, Newark is an ideal location to study the problems and potentials of the built environment. The city, however, is only one focus of the School. Smaller, less dense rural communities and urbanizing areas are included in recognition of the architect's broadening scope of involvement.

The design professions have never faced a greater challenge than they do today. The challenge to the schools is to try to identify the combination of intellectual and professional experiences that will allow today's students to make meaningful contributions to an ever changing society.

One objective of NJSOA is to develop the use of comprehensive design — an approach which asks WHY BUILD, WHAT TO BUILD, and WHERE TO BUILD before emphasizing HOW TO BUILD. Within this analytical framework, the identification of value systems, social and behavioral considerations, and a humanistic rather than a mechanistic approach become basic. Students must comprehend today's environment yet have the sensitivity and vision to adapt to and respond creatively to the changing nature of our society and the changing needs of our environment.

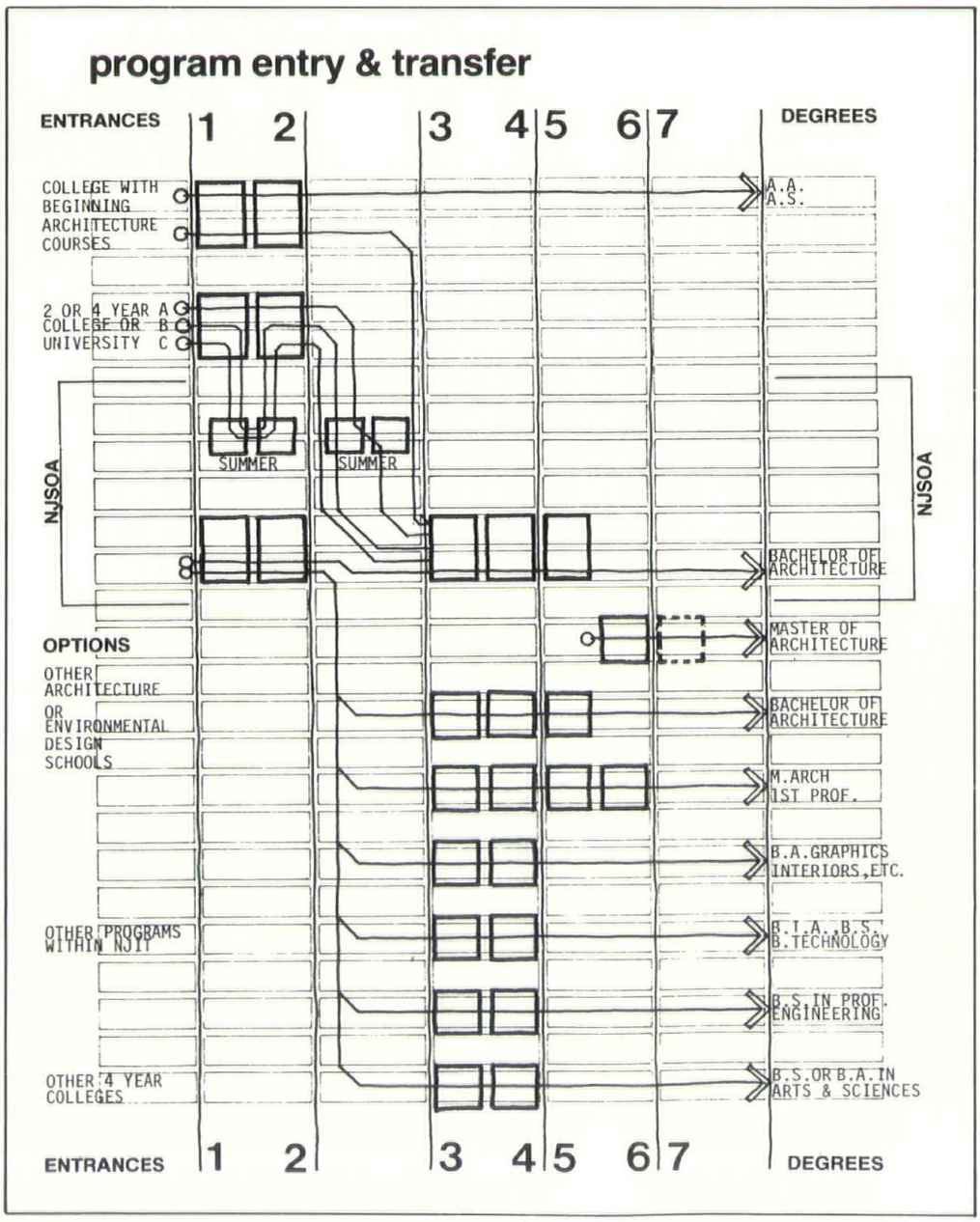
The School intends to maintain a strong interaction with the practicing profession, providing services such as visiting lecturers, cultural events, information services and continuing education activities.

It is also our purpose to break new ground in the architectural profession through research, through the development of new and innovative approaches and techniques, and by focusing on important contemporary social issues and philosophical concerns.

2 Year + 3 year Format: With regard to curriculum and degree format, the AIA New Jersey School of Architecture Advisory Committee recommended that the new program should be structured initially to offer a Bachelor of Architecture degree at the end of five years with admissions to a three-year professional program after completing a two year pre-professional program.

Program Entry and Transfer: Professional program studies begin with the third year of study. Potential transfer routes into and from the NJSOA program are summarized in the diagram at left.

Transfer from Pre-Architecture Programs: Students can be admitted directly into the third year program from a system of two-year pre-professional programs now under consideration by a number of New Jersey county and state colleges in cooperation with the School. A critical factor in direct transfers is that students are required to



have the equivalent of NJSOA's first and second year required architecture courses. Out-of-state students from a school of architecture with a parallel pre-professional program could also apply directly to the third year. This route is shown at the top of the transfer diagram.

If the student has been in a two-year degree program, then transfer programs — the A.A. (Associate in Arts) or A.S. (Associate in Science) are preferred over the A.A.S. (Associate in Applied Science) or other technology programs.

Cooperation with other New Jersey Colleges: Links between NJSOA and other New Jersey colleges, those in the City of Newark and those beyond the metropolitan region, are valuable relationships for the School, now and in the future. Virtually every statement and report concerning the establishment of the School of Architecture emphasizes the importance of the School's working relationships with other educational institutions. Program coordination with other public colleges in New Jersey is developing.

Pre-professional programs have been discussed with representatives from the following institutions:

Brookdale Community College
Essex County College
Kean College
Mercer County Community College
Morris County College
Ramapo State College
Somerset County College
Union College
Rutgers-Newark College of Arts and Sciences

NJSOA faculty and staff have also been involved in NJIT's regular series of articulation meetings with high school and county college counselors.

It is the intent of the School to fully develop a network of student advisors at New Jersey colleges who can be kept informed of developments in the architecture program and who will be able to advise students appropriately concerning pre-professional architecture studies. The use of the School's summer program for the beginning architecture course sequences, *Introduction to Man and Environment* and *Environmental Design,* is being encouraged for those colleges which do not choose to develop similar offerings. As time permits, NJSOA expects to meet with interested faculty and students at all of the colleges and universities within the state, to discuss transfer options.

Higher Education in Newark: While CHEN functioned, NJSOA made significant use of their cooperative activities. Even since its demise, the School has continued to strengthen existing ties and continues to explore new ones.

Most pre-professional students and many currently enrolled in the professional program have taken general studies and elective classes at Rutgers-Newark College of Arts and Sciences and Essex County College. The basic freehand drawing course offered by the NCAS art department is required for all pre-professional students. Several NJSOA students have taken a basic architecture technology program at Essex County College.

Future Strategies: A five-year plan for adding other undergraduate degree options and graduate programs. Discussions have begun in the School on potential degree options that could grow out of the 2 + concept.

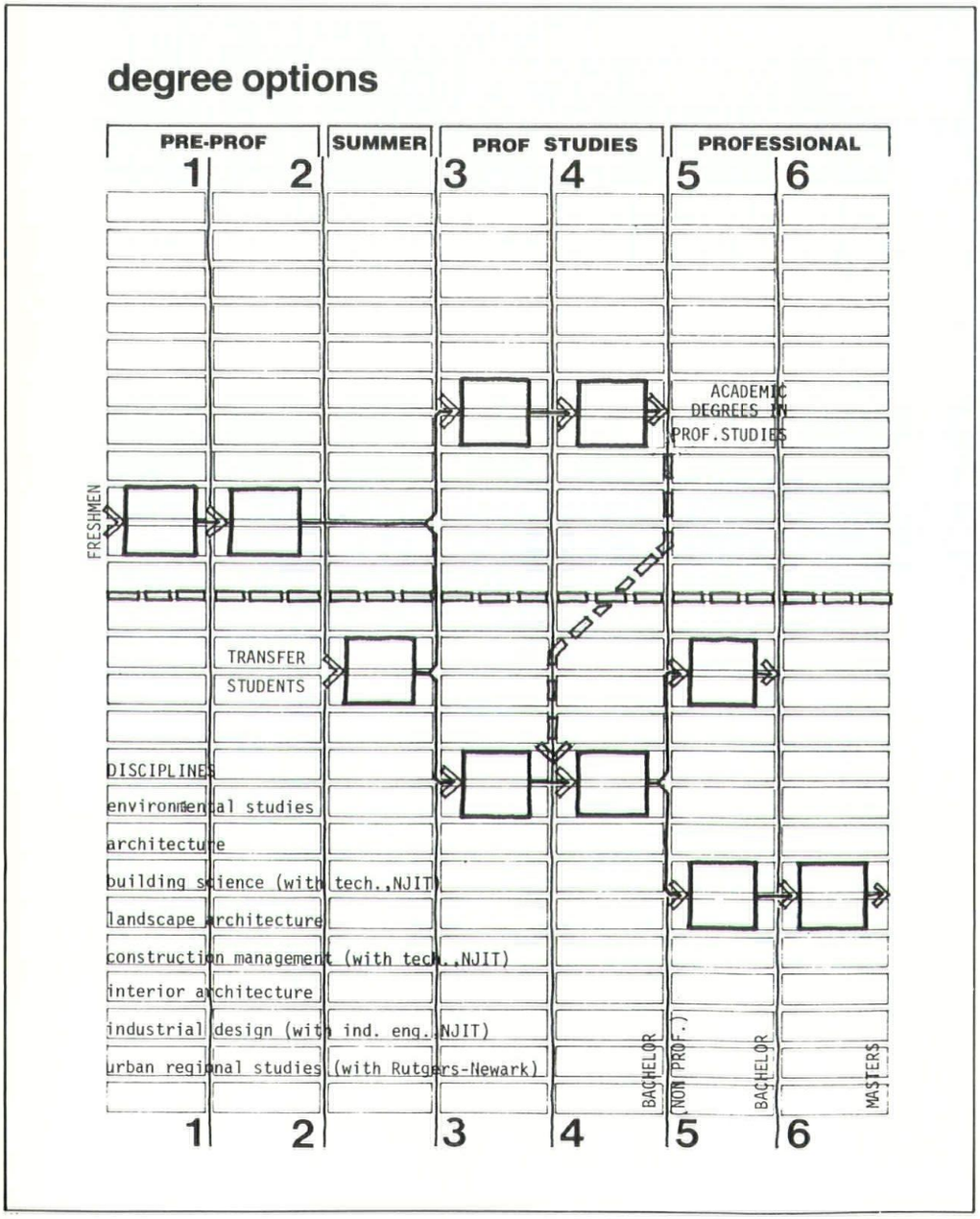
A Chronological Review of NJSOA's Development:

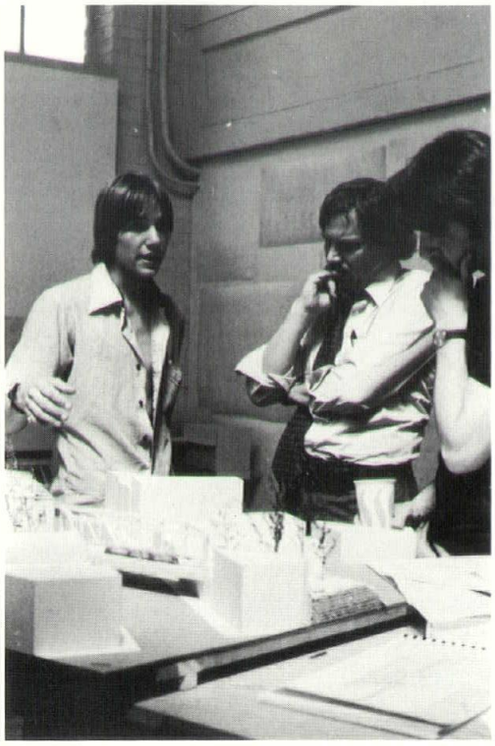
1973 The School of Architecture at NCE was authorized by the New Jersey Board of Higher Education.

1974 (summer) Transfer students, without a design background, were admitted to a summer school program prior to beginning the third year in the fall.

1974-75 First full operating year with 1st, 2nd and 3rd year students; 240 students (with 10 Faculty (7 full-time and adjuncts) Only required courses taught.)

1975-76 400 students in the first four years, (with over 17 faculty). Elective courses offered for the first time.

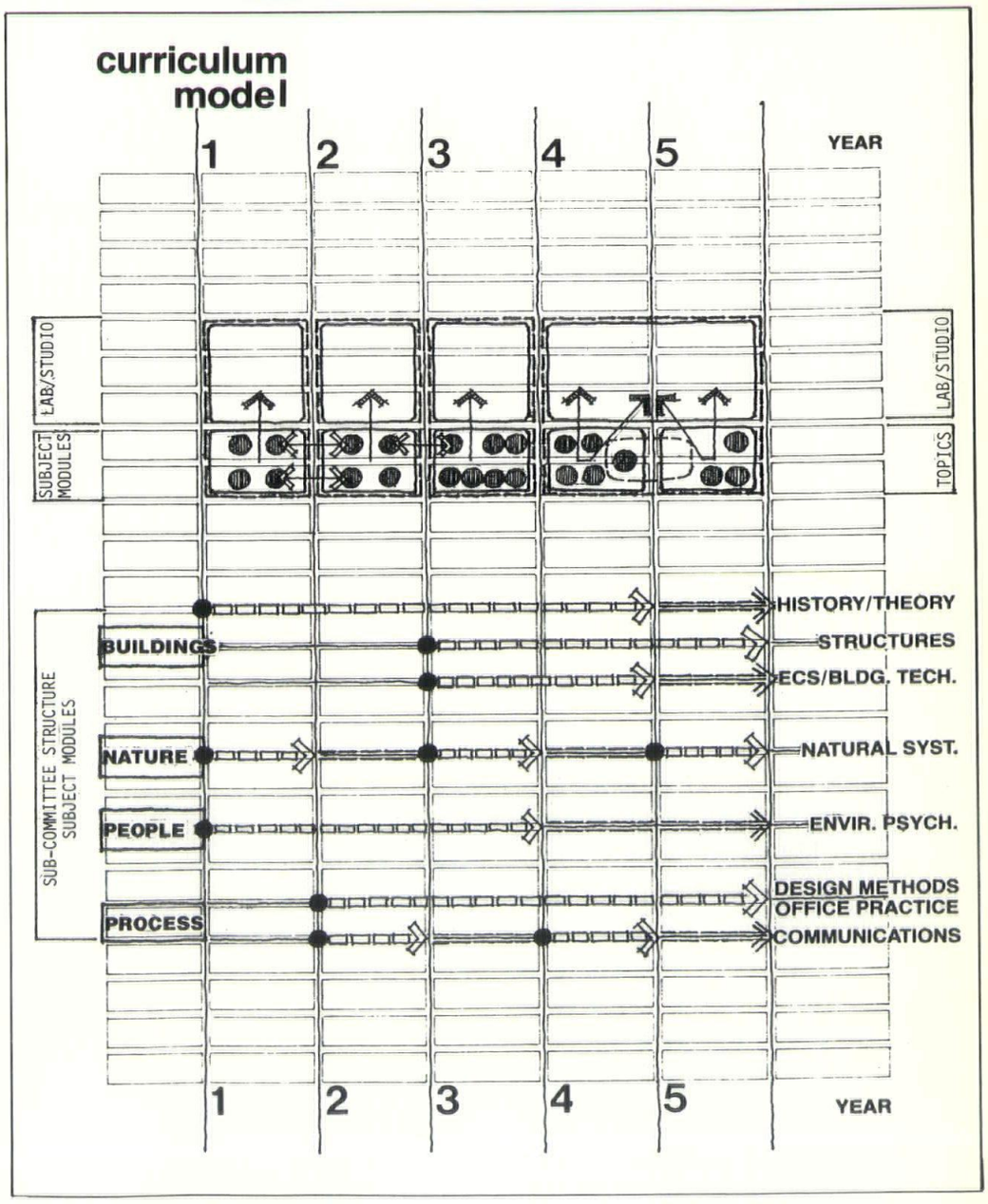




Faculty: The outline curriculum was structured in 1973-74 to reinforce an interdisciplinary approach to problem-solving which assumes team-teaching. The detailed curriculum as it has evolved reflects the same intent. The need for a comprehensive view of environmental problems and the need to synthesize information, methodologies and professional inputs require an active team-teaching organization in order to achieve an educational program of quality and distinction. Faculty are selected to provide a variety of expertise which will best reinforce team-teaching. Full-time faculty are basically "generalists" who also bring to the School a specialization through advanced degree experience, professional experience or a combination of both.

The areas of specialization that relate directly to the School's program objectives include:

communications
building technology
design methods
design process (advocacy)
environmental control systems
environmental psychology
history/theory, arch & urban planning
natural systems, landscape
structures



1976-77 All five years taught for the first time; 250 pre-professional students and 150 professional program students (with over 20 faculty (17 full time and 11 adjuncts).

1977 First graduating class, May 1977.

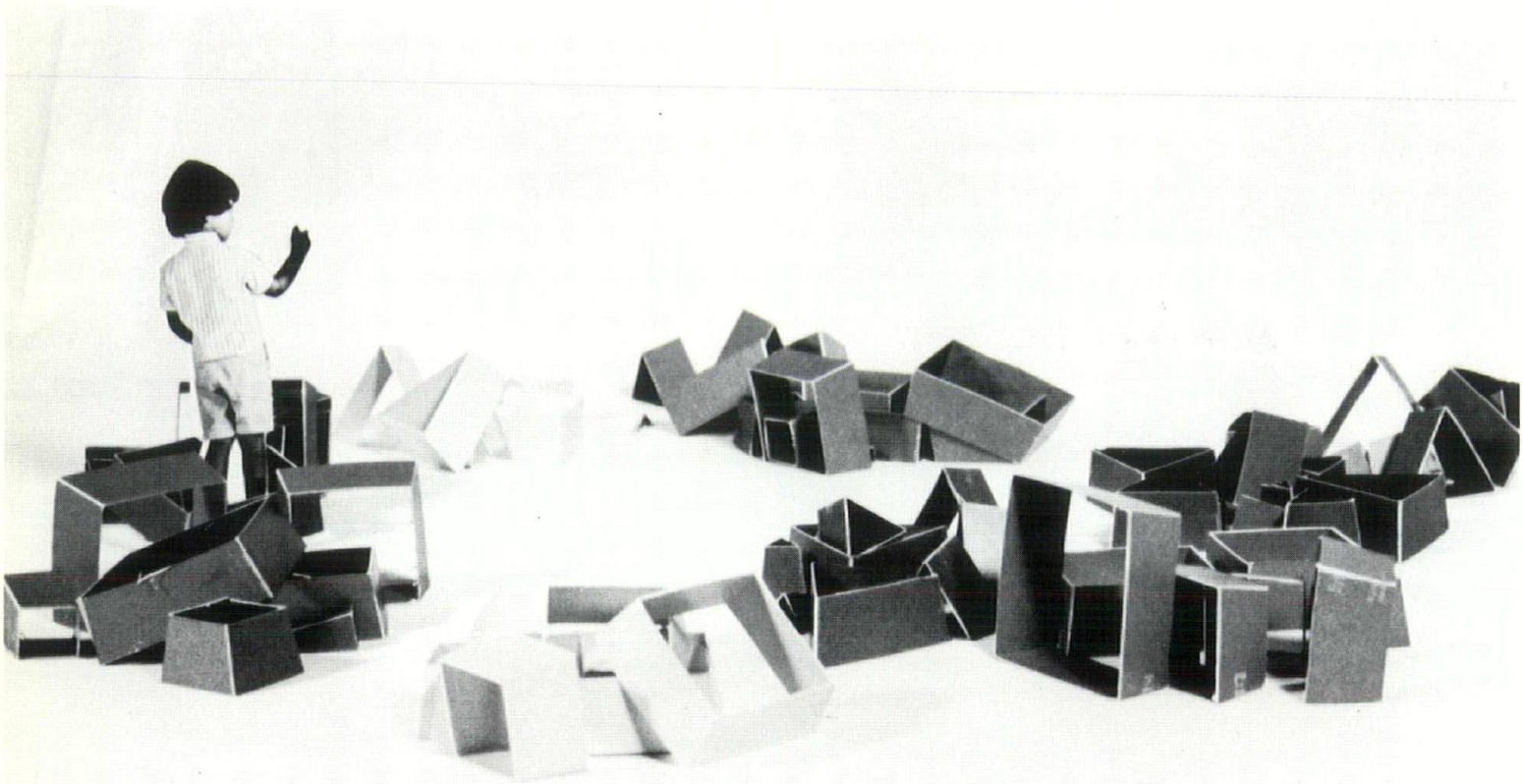
Curruculum: A primary objective of the curriculum is comprehensiveness....an approach which asks WHY BUILD, WHAT TO BUILD, AND WHERE TO BUILD before emphasizing HOW TO BUILD. Course content reflects this orientation, and provides a framework within which analysis and design problems are presented.

Another objective of the School is to continue to search for ways to identify accurate and appropriate intellectual and professional performance standards for students at given points in the curriculum.

The diagram at right illustrates the required core curriculum in relationship to the team-teaching concept, and to the scope and organization of the "subject modules" with lab or studio.

Some Thoughts on Children's Architecture

BY DONALD WALL, ASSOCIATE PROFESSOR
NEW JERSEY SCHOOL OF ARCHITECTURE



Goeff Cogan, "Projective Space Tunnels," 3rd year student.

"How do children perceive and think about the different visual environments of their daily lives? *To what extent does the ordering of objects or events in these visual environments give shape or direction to thought?* Is it possible to arrange a specific environment so as to enhance a particular kind of thought? Do children perceive and think about their visual environments differently from adults? If we knew the answers to this sampling of questions, then surely we would possess solutions to some of the more enduring mysteries about the nature of human thought." John Elliot, *The Child's Development of Space,* 1975.

One way to find out how children conceive and perceive of their architectural world surrounding them is, simply, to ask them. Not only will we get some direct answers, but we will avoid, hopefully, adult prejudices concerning a child's visions.

This is exactly the course of action that Helen Demchyshyn has set for herself recently. Helen is a twenty one year old student in the New Jersey School of Architecture who, in partial fulfillment of work undertaken in a children's architecture elective entitled *Spatial A,B,C's,* wondered whether children at a Montessori School held the same views towards their classroom environment as Maria Montessori would aspire them to have.

Critical to the entire Montessorian pedagogy is the notion of the "prepared environment." The passage Helen chose to focus on goes somewhat as follows: (it comes from Paula Polk Lillard's standard text *Montessori: A Modern Approach,* and therefore represents orthodoxy.):

"The child's love of order is based on a vital need for a precise and determined environment. Only in such an environment can the child categorize his perceptions, and thus form an inner framework with which to understand and deal with the world. It is not objects in place that the child is identifying, but the relationships between objects."

Helen wishes to find out (1) the spatial order existing in the classroom classified according to the criteria established by Piaget in *The Child's Conception of Space;* (2) the relationship between the physical environment and the various didactic apparatus customarily found in a Montessori classroom, (3) whether the child realizes that he/she is in a "prepared environment;" (4) the kinds of ordering relationships the child is able to identify through: drawing the room; photo-montage reconstructions of the room; verbal descriptions; etc.; all necessary due to young children's deficiencies in precise language.

A typical encounter between Helen and the children is quite a beautiful thing, almost like a dance, with each person responding to the other's needs and requests with a tremendous amount of innate sympathy.

This particular day the older Helen was not being fooled, not even for a minute, by the younger Helen who is four years old. The miniaturized version is protesting that she doesn't know how to draw the interior of the day care room where she's been playing now for close to a year. "It can't be done." "Nobody showed me how," goes the conversation, emphatically declared, accompanied by a shrug uplift of the shoulders, and a screwed up face.

"Then how about drawing for me just that window over there."

The drawing gets done. Then cut out. Then pasted down on a larger sheet of paper. Next comes the door, first drawn, then pasted. The hallway. The ceiling. Three other windows. The fireplace, floor and walls. The lights, and finally some of the

didactic toys. Each is cut out. Strewn about. Not all the elements are used. The pieces are finally reassembled on the larger sheet recreating the room according to how the children conceive the reality of their physical surroundings.

Certain aspects quickly emerge: pasting is better than just drawing. It's more fun, messier. Because pasting and drawing implicate greater motor activity, the two together momentarily counteract a child's naturalistic disinterest in representing their immediate environment. Also, cutting and pasting gives the child more freedom to rearrange the room.

The small Helen didn't give much thought to accurate proportions. The ceiling is huge. The floor is hugest of all. The hallway is tiny. She doesn't spend much time there, only passes through, so why should it be given expressive importance? Her favorite toys are drawn larger than the less favorite, although in reality they are all the same size. Relevance, frequency, and duration of use governs the size of imagery, much like it did in Byzantium and Medeival art where things were organizationally ranked and proportioned according to sacral order, not scientific order. The representational world of the child is similar.

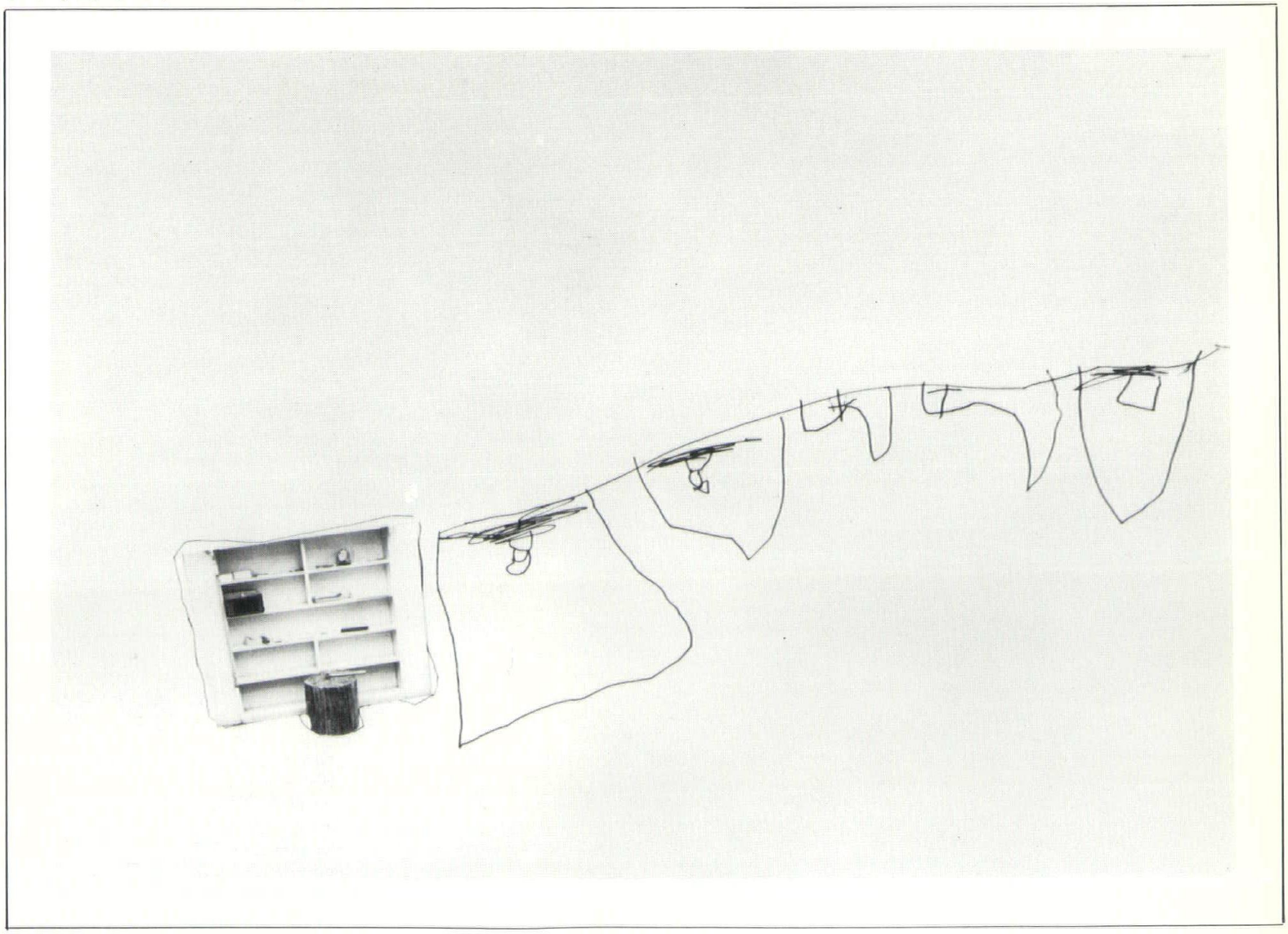
Despite the hugeness of the drawn ceiling image, the four year old forgot completely where she had put it on the sheet, and failed repeatedly to even identify it. So therefore, when it comes to placing the overhead electric lights cut-out, it went "off to the side, over here," says the small Helen, giving it a special place of its own, probably echoing the child's desire to have "a special place all her own."

A long line, not even a shape, served to delineate the wall. What is being depicted here is the four year old's *actions* of playing with toys which usually occurs along the edges where walls meet floor, sometimes in corners.

The big Helen wouldn't have drawn the wall that way, nor would any adult, especially those sensitive to "visual farm." Because what is so astonishingly apparent about children is their seemingly unresponsiveness to many things adults hold dear. For one, the "passive" aesthetic experience; children would rather make a painting and bang out a drum melody than look at a Van Gogh or listen to the Rolling Stones. For another, the fact that children group relevancies by actual functional experience not by potential functional experience.

Helen Demchyshyn is good at what she's doing. During her third year at N.J.I.T. she spent two terms at the Hoboken Day Care Center, two days a week, studying how non-Montessori children represent their physical surroundings. She became relatively familiar with such texts as Harris-Goodenough's study using draw-a-man as an index of intellectual maturity, the cognitive map-

Child's placement of photo and drawing of the rest of the wall.



ping work of Stea and Blaut, Olson's theories with space-descriptor words, Erickson's thesis of male/female imagery preferences and so forth. The fact that the entire undergraduate curriculum at N.J.I.T. is team-taught, and interdisciplinary in context, allowed Helen to shift between diverse authors with impunity. Explicit exposure to adult problem solving methodologies, also a key ingredient in the core curriculum, enabled Helen to be extremely alert to children's problem solving methodologies. While Maria Montessori failed to specify just exactly what kinds of "ordered relationships" her children were supposed to gain from the environment, Helen soon realized that the Montessori children did not differ much in their organizational capacities in reconstructing the environment spatially, thus agreeing with Piaget's thesis, but did differ substantially in the ability to name/identify elements in the environment. This showed up oftimes in very minute details, such as the pull string on window shades, including even the hanging ornamentation.

As far as a Montessorian child's procedures in "categorizing perceptions" (referring to the Lillard quote), the children that Helen worked with organized their perceptions additively, at random, part responding directly to its adjacent part without necessarily having a controlling precognition of the desired end; at times even forgetting the starting premise. Unlike adults, children are not at all holistic at age four, still remaining excessively field dependent whereas adults operate normally in field independent manners.

Granted the drawings don't look like much. They are, nonetheless, loaded with information.

The drawings confirm in architectural contexts the same sort of things that people like Jerome Bruner, as well as others, have noticed about a child's reactions to toys and smells and stuff, namely, how quickly and how long lasting is a child's inability to leap into more cognitive patterns of behavior. The very young child is, as Bruner observes, "a paragon of sensory distractability. He is a victim of the laws of vividness, and his action patterns are a series of encounters with this bright thing which in turn gives way to the next noisy one. And so it goes. Visual memory at this stage seems highly concrete and specific (rather than abstract and general). What is intriguing about this period is that the child is a creature of the moment; the image of the moment is sufficient, and it is controlled by a single feature of the situation."

Asking the child, therefore, to draw the room in its entirety is, in fact, asking the child to disengage from specific objectness and proceed into relationships between objects, which was Montessori's intentions as well. Some of the children just couldn't do this very well.

For instance, when John was given a photo of shelving, which in the real room was inset into a fireplace, and was asked to use the photo as a beginning place from which to draw the remainder of the fireplace, the two windows flanking the fireplace and whatever he could of the wall around ...remembering that John is in the room looking at the fireplace directly while drawing.....John became "mired" in the shelving. Time and time again he would first place down the photo (silhouetted), then trace around it with a magic marker thus making a "container" similar to the containers that carry most all the didactic elements (the graduated cylinders in the holes; the geometric shapes in their negatives: etc.) then he would paste the photo into the outlined area, finally scribble around the profiled outline replicating shapes, but not escaping from its confines. A few children who used the same method of outlining then pasting-in did not escape the sensory pull of the edge; but the achieved results were, at best extraordinarily tentative, hesitant, and schematic. Yet these same children could do all the seriated tasks expected at their age; name most of the things found in the room as well as draw circles and squares; make granola, etc.

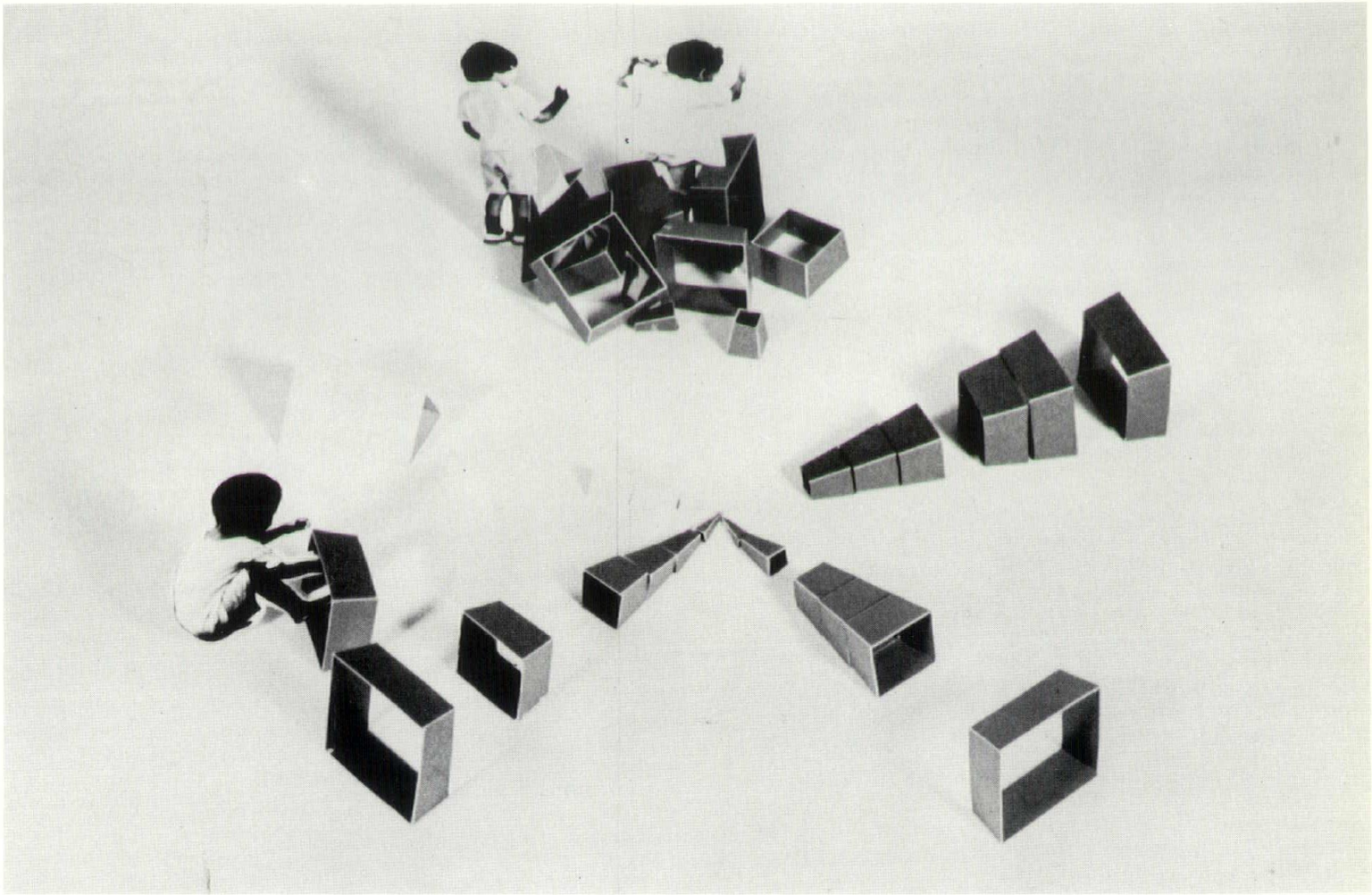
It would seem the simplest of tasks: place two windows flanking a central fireplace; yet it turns out to be quite difficult. The difficulty has nothing to do with drawing skill as such. It has to do with spatial localizations and spatial definitions. In order for the child to *mentally* represent the relation-then to the sill line of the windows and to the floor, the windows and the sides of the fireplace, the central composition axis, the shelves to each other and then to the sill line of the windows and to the floor, etc., the child would have to image some type of referent system *external* to these elements...something like a loose right angular grid...and that doesn't happen until much later, perhaps at age seven or eight.

Would gridding-off the room help, much like SuperStudio might do? Or would this be the architectural counterpart to handing the child page upon page of dense mathematical notations? Probably. Jean Piaget, the Swiss genetic epistemologist, discovered that children acquire spatial concepts in a certain way according to a certain sequence. A child, according to Piaget, first ignores straight lines, angles, parallels, and the regular geometric shapes derived from them and considers qualities such as enclosure, proximity, separation and continuity, bigness or smallness, near or far all at gross levels initially. Only with the establishment of these properties can he then deal with more advanced criteria such as we find in the concepts of parallel lines, relative orientation, overlapping parallel lines in various orthogonal possibilities, etc. Moreover, this sequence is inviolate: school-age children must develop spatial concepts first in a topological, then a projective, and finally in a Euclidean network. Basic to these conclusions is Piaget's observations that a child mentally constructs representations of space only as a result of physical action *in* and *on reconstructed space.*

It's not, therefore, just a matter of the child having a grid painted on the wall and extracting the necessary information by the mere act of seeing. Does this mean, then, a reliance on architectural coloring books, cognitive mapping exercises, pads of paper gridded-off in the same increments as the wall grid, small scale models of the room with moveable windows and doors; or as in Helen's approach, the use of photo-montages, etc? Is it worth the effort to find the answer?

Although the debate surrounding the psychological function of space has not yet been placed into architectural contexts, there can be no disagreement about its importance to the child. The Russian psychologist Luria describes the perception and cognition of spatial relationships, along with the ability to orient oneself in space, as "among the most complex forms of reflection of the outside world," while the Englishman Huttenlocher posts a direct correlation between an individual's ability to rotate objects in the three dimensional mental space and I.Q. The Geneva School headed by Piaget has gone furthest: they hold that it is from actions initially performed in physical (sensorimotor) then in mentally organized space that a child abstracts knowledge, and from these abstractions begins to reason deductively. Piaget himself sees logic and space inextricably linked-in-tandem. "Corresponding to operations which assemble objects in order to classify, serialize, or number them are the operations that constitute objects themselves, complex yet unique objects such as space, time, and material systems. Now, it is not surprising that these infra-logical operations are grouped in correlation with logical-mathematical operations since they are the same operations but on another scale: the joining together of objects in classes with one another becomes the joining of parts and pieces in a whole; seriation expressing the differences between objects appears as relations of spatial order and displacement, while number corresponds to measurement. Now it so happens that while classes and numbers are being formed, we can see the construction in a remarkably parallel manner of the qualitative groupings that generate time and space." *(Psychology of Intelligence,* 1947.)

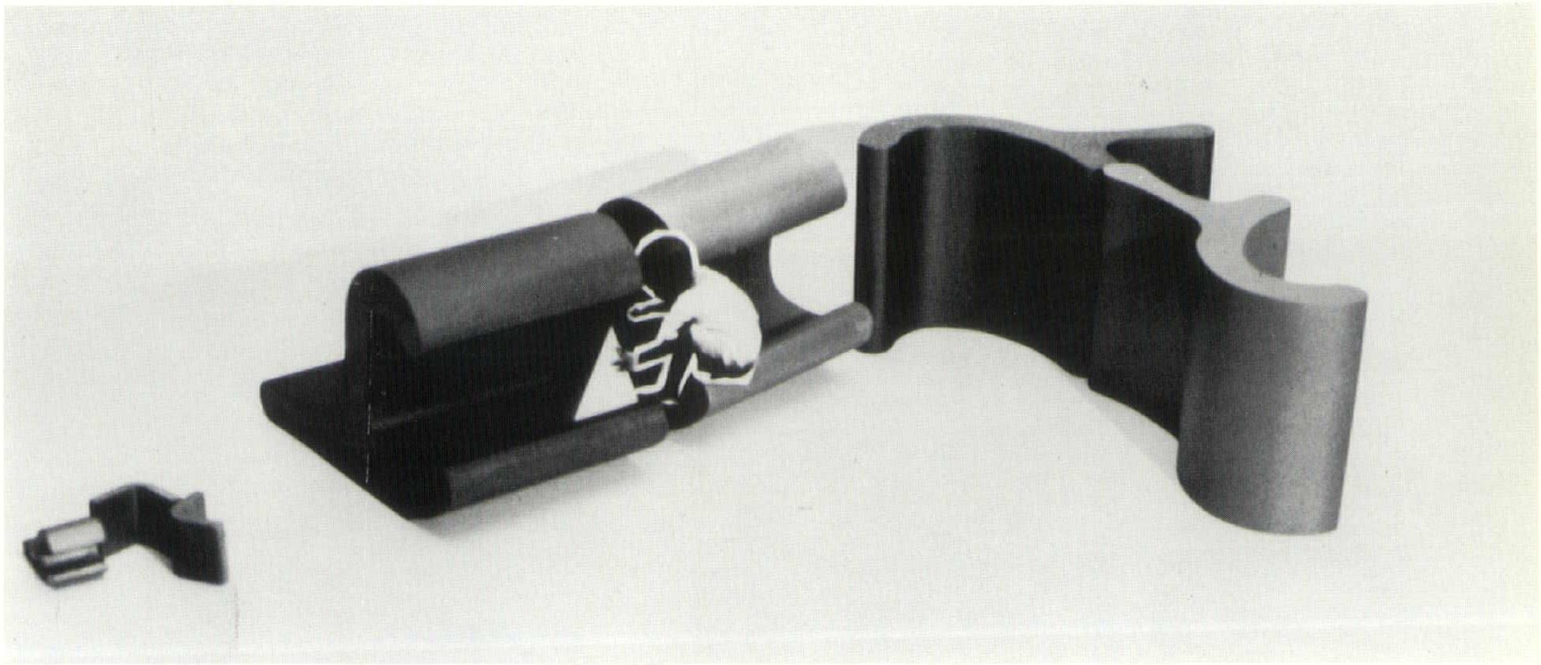
Many authors, too numerous to mention, have attested to the fact that space and a child's ego are inseparable for a comparatively long time, and that almost all of a child's actions between the ages of one and eight become colored by this process of objectivization of ego-space. Since the prevailing view is that space, along with time, constitutes the raw, unprocessed content of intelligence (Kant, Descartes, Bergson for a priorism theory; Werner, Cassirer and Piaget for structural developmentalism theory), it can be maintained that no branch of human endeavor remains untouched by some sort of spatial prerequisite. Mathematics, language, geography, music, concepts of motion/casuality/number/order/classification/, all material and logical systems have either a direct or composite origins in spatial cognition. And since there already exists in architectural thinking a rich heritage discussing the spatial aspects of architectural form and style (Focillon, Zevi, Wittkower, Panofsky, et al) it ultimately becomes a question of identifying what impact, if any, architecture has on the very genesis of thought.



Goeff Cogan, "Projective Space Tunnels," 3rd year student.

Alex Levitsky, "Index Building Blocks at table top and room scale," 3rd year student.

Photos: RAY CASELLI



Environmental Education: A Point of View

NATHAN JERRY MALTZ, AIA, SPECIAL LECTURER
NEW JERSEY SCHOOL OF ARCHITECTURE

Scene: an arts classroom in Arts High School in Newark. It is the day of the last visit of a group of architecture students from the New Jersey School of Architecture, (NJSOA) who have been working with the high school students one day a week throughout the semester, teaching and learning about environment. Three teams of students are making their final presentation, explaining their projects to each other. After one teen-ager speaks, an architecture student from another team challenges him to explain how the particular approach which that team developed, in this case a three-dimensional collage expression the interrelationships among home and neighborhood and city, increased his understanding of the environment. The high school student responds forcefully and articulately to defend his position; the architecture students on his team fairly burst with elation and pride at the performance of their "protege."

Scene: an interior design classroom at the Fashion Institute of Technology in New York. A group of twelve students is gathered informally around one member of the class as she explains two collages she has just completed, one of which represents abstractly her feelings about her home environment and the other of which represents the interrelationships between that environment and its street, neighborhood, and city. As she talks other students and the teacher interrupt with questions, most of which tend to make her probe more deeply into the effects of her environment on her thoughts, feelings, attitudes, and behavior. During the break which follows her presentation, a student guest attending the class for the first time asks her, "Were you being psychoanalysed?"

These vignettes occurred in two different classes during the recent spring semester, both of which were oriented toward increasing the sensitivity of students to the effects on their daily lives of the physical environment which surrounds them, and to awaken in them the awareness that we are constantly making judgments about and absorbing and rejecting information from our environments, and that we are all in some sense designers; the need to shape one's own environment is as basic, if not as insistently conscious, as that of eating or sleeping. The process does indeed require a bit of what may be called psychoanalysis, or at least systematic introspection, delving into one's own learning and screening patterns, and the students tend to become very much involved in the activity, often responding quite enthusiastically.

Though the format of the two courses is quite different — at NJSOA it is an Environmental Education Workshop where architecture students work with high school students in a high school setting. At Fashion Institute of Technology it is an Environmental Experience sequence which takes place primarily within the college classroom — the broader aims are also similar: on a macro-level, to develop in all the students a comprehensive awareness of the functioning of their environments to sharpen their perceptions of the multifaceted ecological interrelationships among the various environments they experience in their daily activities, and to enable them to exert a greater influence over those environments and so enhance their own lives; on a micro-level, to emphasize the power of the students' own environmental experiences, and particularly their feelings about those experiences, in forming their attitudes, their preferences, and, in the case of the architecture and interior design students, their approaches to design. It is my contention that through increased awareness of their own personal reactions and motivations, design students and professionals will be better able to understand the needs of others, and so contribute toward the creation of better environments for all.

This point of view evolved over the course of a number of years of working as an architect, first for private firms and then for the New York State Urban Development Corporation. I gradually became aware that architects and interior designers are not so concerned as they should be with the quality of the environment as a comprehensive whole, and with the points of view of the users of the environments they create, nor do they understand that their own personal preferences result from many years of specialized training which sets them quite apart from the lay public. My experiences at The Urban Design Corporation where I was in effect acting as a client for consulting architects who were designing various components of the Roosevelt Island new community involved a whole sphere of concerns — including marketing and negotiating with multiple city agencies — which are too often beyond the architect's range of interests. Most of these activities related in some way to understanding environmental viewpoints held by people other than those specifically trained in design, in other words, the users of environments. I began to realize that these viewpoints are important and that current architectural and interior design curricula, for the most part, place too little value on this input.

There is also a dearth of concern for the physical environment in public education. An increased awareness of the possibilities which the environment offers, and an understanding of the processes involved in environmental decision-making must be conveyed to the general public, and people's imaginations must be stimulated to think creatively about enhancing their lives by making their environments work better for them. If these matters were to become prime in the public consciousness, demand for more human and humane environments would likely become widespread, and the professionals involved in creating environments would respond to that demand.

To develop such demand we must explore possibilities for reaching people at all stages of their lives, in all of their environments. However, since virtually all people pass through our school systems, and do so at a highly formative period in their lives, it seems reasonable that we focus a major portion of our efforts toward environmental education within those particular institutions.

Ideally, environmental education should not be a separate discipline, but should simply be an approach to teaching all disciplines, to relate the

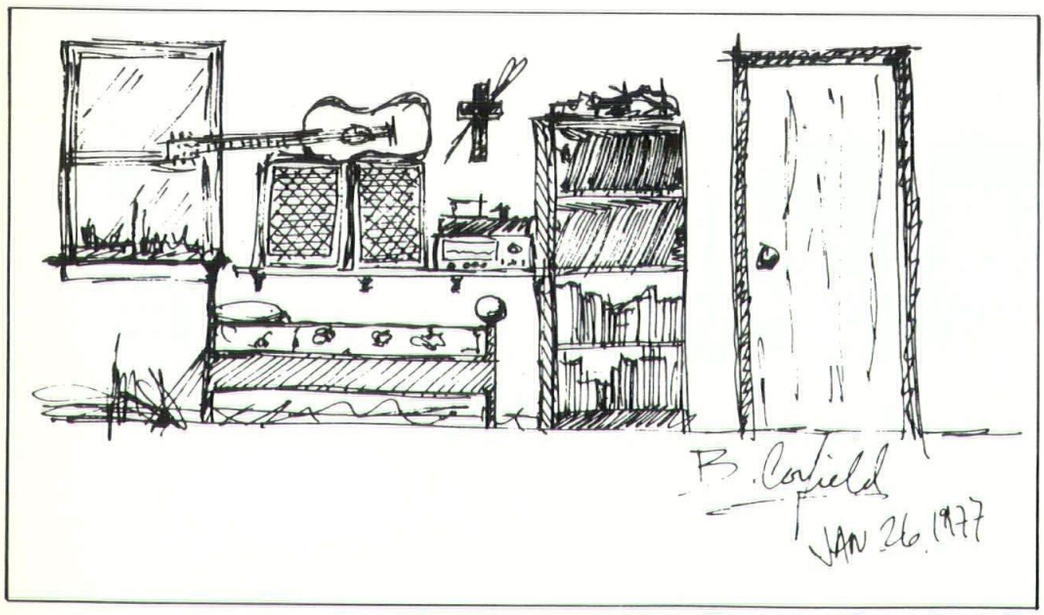
students' more formal school experiences to their all-encompassing total life experiences. Mathematics can be related to the daily activities of shopping and budgeting, as well as to neighborhood land surveying and real estate values; geography can relate to local topography and preferred locations for neighborhood stores, housing, activities, etc.; history can relate to the evolution and change of the local area, and the processes of forming governing organizations and physical places, and of making decisions which have resulted in the current environment; science can relate to neighborhood ecological systems as they exist both before and after human modification; music can relate to neighborhood sounds and ways of representing environments can be discovered in art classes. Alternatives and their ramifications can of course be explored within the framework of any subject, and reading, vocabulary building, spelling, writing, and other skills generally labeled "English" can be developed through the students' increased awareness of the incredible variety of activities which are constantly occurring all around them. There is an environmental component to every academic subject, and it should be emphasized in school curricula. This approach, simply the grounding of formal knowledge in the students' experiences, will sharpen students' perceptions of how their physical ambiences affect their daily lives, and how they can be more effective in influencing those immediate physical environments. Though many school systems profess to be teaching in this manner, somehow their achievement falls short of their aims. Perhaps they should start with a current life situation and relate the academic subjects to it, rather than starting with the academic subjects and relating life situations to them. Until this more comprehensive goal is realized, however, special efforts such as the Environmental Education Workshop, with even greater emphasis on the processes of how we learn and how we refrain from learning from our surroundings, are highly desirable to develop more informed and critical perceptions of environments.

* * *

The Workshop at NJSOA is not a required course in the curriculum; it is an elective around which students can develop an area of concentration, that area being environmental education. Other courses which can supplement the Workshop deal with techniques of teaching, learning process, urban values; the history, geography, sociology and culture of cities; community development and governmental organization. Students may also choose specific courses on the history of Newark. Since one of the major reasons for locating the New Jersey School of Architecture in Newark was to stimulate interest in the revitalization of that city, and since we are working primarily with high school students who live in Newark, the Workshop has an urban orientation.

Nine architecture students in the third and fourth years of their courses of study worked with about 35 high school students in two different High Schools in northern New Jersey: Arts High School in Newark, and Perth Amboy High School. We spent about 1-1/2 hours per week in the high schools, talking about various aspects of the environment and working with the high school students on exercises to increase their environmental awareness. The exercises ranged from representing the image which the word "home" conjures up in one's mind, to investigating where individuals feel most comfortable within the specific types of spaces, from analyzing the functions performed in the home and discussing whether existing arrangements of rooms are the best possible for performing those functions, to examining the variety of elements perceived on the trip from home to school each day and discovering how the streetscapes developed as they did, to thinking about all the components which form a neighborhood and exploring the qualities that distinguish one neighborhood from another; and sensing the variety of organizational patterns (both physical and social) in which neighborhoods can relate to one another to form the larger units of human settlements known as villages, towns, and cities. The students worked mainly in teams — two or three architecture students with eight or nine high school students — each team developing its own approach to the process of learning about the environment. The differences in approach reflected the students' own preferences and points of view — with a little prodding from the teacher!

Two of the teams working in Arts High School concentrated on the teen-agers' immediate environmental experiences, discussing interrelationships between home, neighborhood, and city. Using photography as a medium, one team of high school students took pictures of the places which are important to them. The photographic slides were then organized, with synchronized taped commentary by the teen-agers, into a presen-



tation given to the rest of the class. The other team, using pictures gleaned from magazines, organized them into a three-dimensional collage which expressed interrelationships significant in their daily lives. The third team concentrated on preparing the teenagers for encountering a type of environment with which they were unfamiliar, a "wilderness" experience, which led to an overnight camping trip in Harriman State Park. One of the sessions during the semester with Arts High School was devoted to a walking tour of Newark, and another to a tour of the architecture studios at NJSOA. An advanced architecture student working at Perth Amboy High School conducted a series of awareness-increasing exercises and discussion with his students, culminating in a tour of lower Manhattan and a view from the World Trade Center.

The format of architecture students working with teenagers can function very well, as the younger students perceive the architecture students not as teachers but as somewhat older friends, and thus tend to be more receptive and responsive to them. They are more willing to explore and consider their ideas, and more likely to enjoy the process. The architecture students gain from the arrangement also, for as they become more involved in teaching, their individual consciousness about environmental matters is raised; they must increase their personal awareness in order to teach effectively — a truly experiential way of learning. The student "teacher" ratio of 3:1 allows, of course, for much individual participation and interaction among the students. The growing rapport between the architecture students and the high school students within each team was fascinating to watch as the semester progressed; most of the older students developed a genuine concern and responsibility for their "charges," and their pride in seeing the high school students make their presentations at the end of the semester was quite evident.

A problem with the format is preparing the architecture students to "teach" the high school students. For most of them this was their first experience in being responsible for setting up an orderly course of study, and the notions of planning, thinking ahead to meet various contingencies, were hard to convey. As the semester progressed, though, most of the students became more cognizant of these necessities.

Another difficulty is that their own education has not prepared them to think comprehensively about the environment and its use by human beings. Though architects, along with the general population, have become more aware of environmental concerns in recent years, a major emphasis in architectural education at other schools of architecture is still based on individual buildings, and less attempt is made to convey to the student the interrelationships inherent in the environment, and the choices we as human beings have in developing and altering the environment to better serve our desired ways of living.

This, of course, as stated earlier, is not a responsibility which lies solely with architects and others who directly affect the form of the human-made environment; it is the responsibility of all who use the environment, i.e. the total human population. The public education systems of the nation are vehicles through which this knowledge must be conveyed.

In sharpening our thinking about environmental matters fundamental concepts must be reexamined, for it is possible that traditional modes of thought and the common terminology we use interfere with our perceptions instead of refining them. We often tend to categorize environments into "natural" and "human-made" (even more often using the chauvinistic term "man-made") with our bias, more because of the word than because of the reality, leaning toward the "natural." In actuality, few of us have experienced a totally "natural" environment (in this sense of the term) and even if we have, we certainly have not spent great portions of our lives here. It is likely that we spend at least 95% — if not 99% — of our time in environments which have in some way been developed by human beings. Thus it seems reasonable that our attention be devoted to concern with the possibilities, the choices human beings have in working with "basic" or "given" environments, to

think about these as bases from which to create humane ambiences for human habitation, rather than retain as ideals some romanticized notions of "natural" environments which are in reality neither achievable nor desirable.

To describe the environment created by all creatures other than human beings, I prefer the term "basic" or "given" to the term "natural" for, from the point of view of our experience, all environments are natural. Children growing up in a densely populated city perceive their environments as no less natural than children growing up in a rural area. Their experiences are different, but one set is as real as the other and each has its advantages and disadvantages. It is only as children grow older and become aware of the cultural values of the adults around them that they begin to be aware of good and evil. When these values are applied to the environment and related to the categories "natural" and "human-made," it is not surprising that preferences develop in favor of "natural."

Granted that many of our human-made environments leave much to be desired. (One might also argue that basic environments leave much to be desired, in terms of the total range of human capacity.) My plea is for greater public understanding of the interrelationships between the basic environment and the modifications that human beings make to it, understanding that everything is interrelated, that things operate together to serve intertwined purposes. Dichotomous categorization hampers understanding. Virtually all the environments we experience are a combination of "basic" and "human-made," human beings having changed or rearranged the materials of the given environment so that it functions better for them.

It seems essential to me that we become more conscious of this continuity in our environments, and so begin to appreciate the ecology which exists in settings unaltered by human beings and the ways in which those environments can be developed, not only to better serve human users, but also to retain the particular character, qualities, and interrelationships which evolved prior to human arrival. Indeed, since the special qualities of any basic environment are influenced by the interplay of meteorological, topological, and other vital forces which have created the great variety of surface conditions on our Earth, it is to human advantage to understand and respect these conditions in developing environments to enhance our own lives. Human beings and their creations are integral parts of the natural systems of the Earth, are interacting with them constantly, and until all the ramifications of those facts are thoroughly understood, humans will not be able to develop basic environments for their purposes without the risk of suffering dire consequences.

Realistically, at this stage in the history of the Earth, there are probably many more existing human settlements undergoing change than there are basic environments which will be adapted for human use. (This is certainly true in the United States and Europe, if not in the rest of the world.) Nevertheless, the same principles apply, and an understanding of the interrelationship of forces — biological, technological, and geographical — which result in living environments that are a combination of both human and non-human influences, is essential.

I have tried to impart the sense of this holistic viewpoint to my students at the New Jersey School of Architecture during the past semester. By concentrating on the microscale of the various places they visit in the performance of their daily round of activities, their feelings about these places, the interrelationships among these places, how they learn from these places, and how well human needs are really served, I think the students have gained some knowledge of how and why these environments developed and how they might be improved to function better for their users. Thus the high school students have increased their potential for becoming better citizens, and the architecture and interior design students have increased their potential for becoming better architects and interior designers. ●

Newark — City on the Upswing

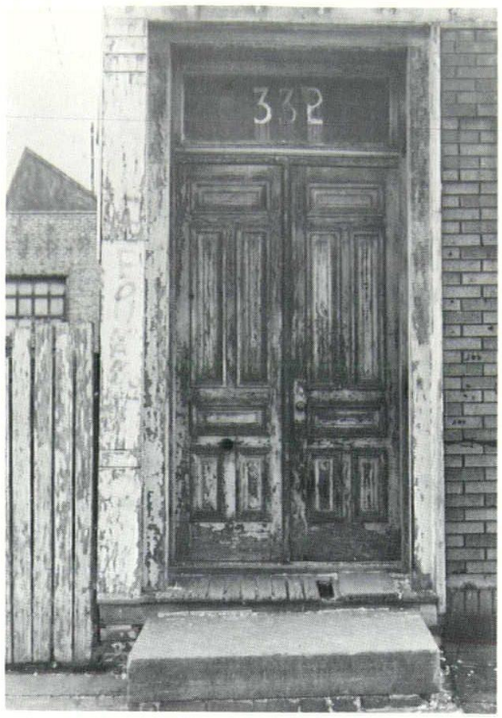
BY TROY WEST, ASSOCIATE PROFESSOR
NEW JERSEY SCHOOL OF ARCHITECTURE

The Ferry Street House Project began three years ago when the New Jersey School of Architecture came to the city of Newark. The connection between the energies of a new school and a city with emptinesses which could become green parks or soul-satisfying enterprises was a clear challenge. "New life for inner city spaces-places" was a paper setting forth a design/build concept prepared for Prudential Insurance Company and the City to raise funds and interest for the first 3rd year Advocacy Studio Project — "Change the Abandoned Prospect Street Umbrella Factory into a Living Art Center." The following year "New Life" sought to change the abandoned Lock Street warehouse into housing for students of N.J.I.T. This year "New Life" will succeed in changing 332 Ferry Street from a typical abandoned Newark frame house into a living place for 13 people, with social/educational activities for NJIT and the community.

In September 1976, the Ferry Street House Project was presented as a three-hour a week lecture/workshop elective to study the possibility of actually building what you design and also living in it. Twenty-two students responded. So great was the response that the house is actually being built and the Ferry Street Group has been incorporated.

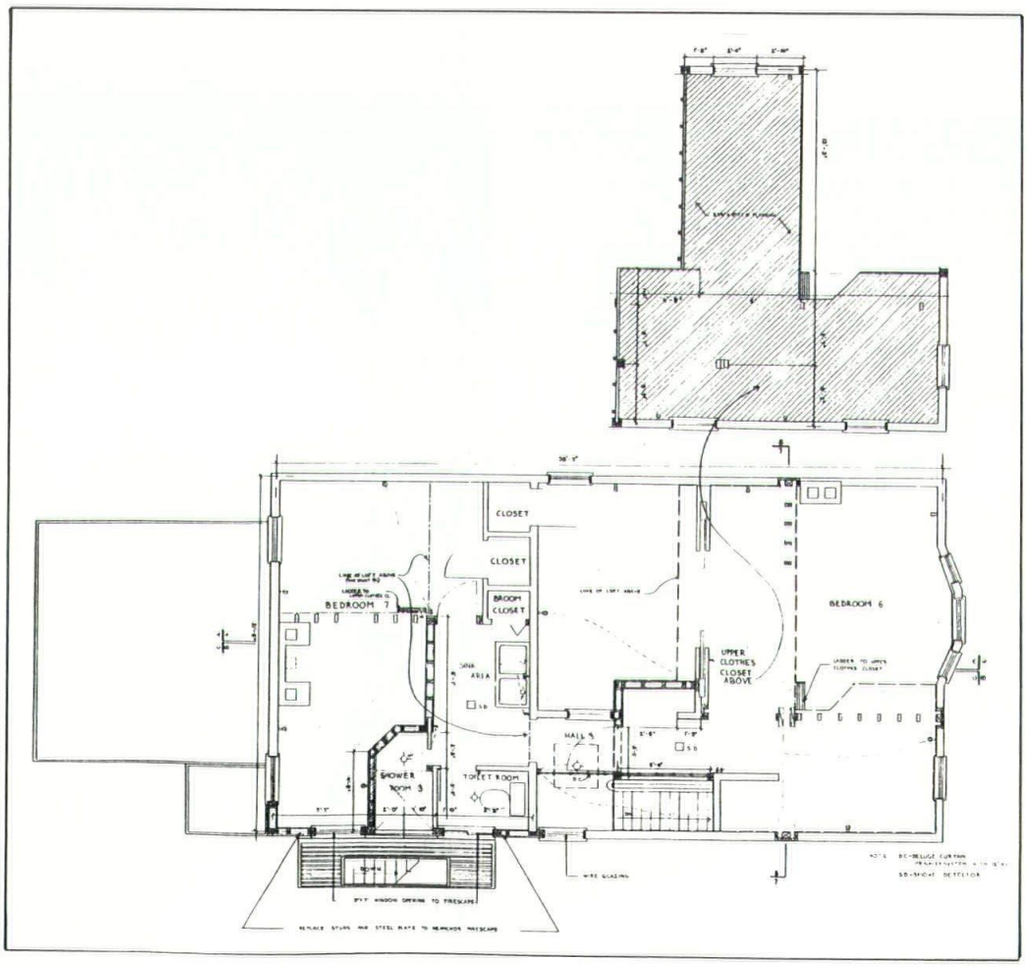
There are meanings beyond the obvious educational and architectural experiences of actually building what one designs. The project stressed from the very beginning cooperative rather than competitive design methodology and established a supportive group. We criticized each other because we cared about each other. Each person did his/her own programs and designs for the house and put them on display. We criticized each one and did another set of designs, and another, and another. We needed more time, so we met in the evenings after class. Through the process we came to know each other through the design of the house, by sharing meals, political, social and architectural discussions among ourselves and with members of the university, city and community. Out of all of this effort, emerged a design for the house in which each member of the group contributed. Design decisions were based on many drawings and discussions and were decided by concensus rather than vote. Every effort was made to be supportive and helping each individual to be stronger, producing for the whole. Grading, the hierarchial non-trusting system, where one works to be judged was replaced by group consciouses to have each person grade themselves and write a paper to share with the group justifying the grade.

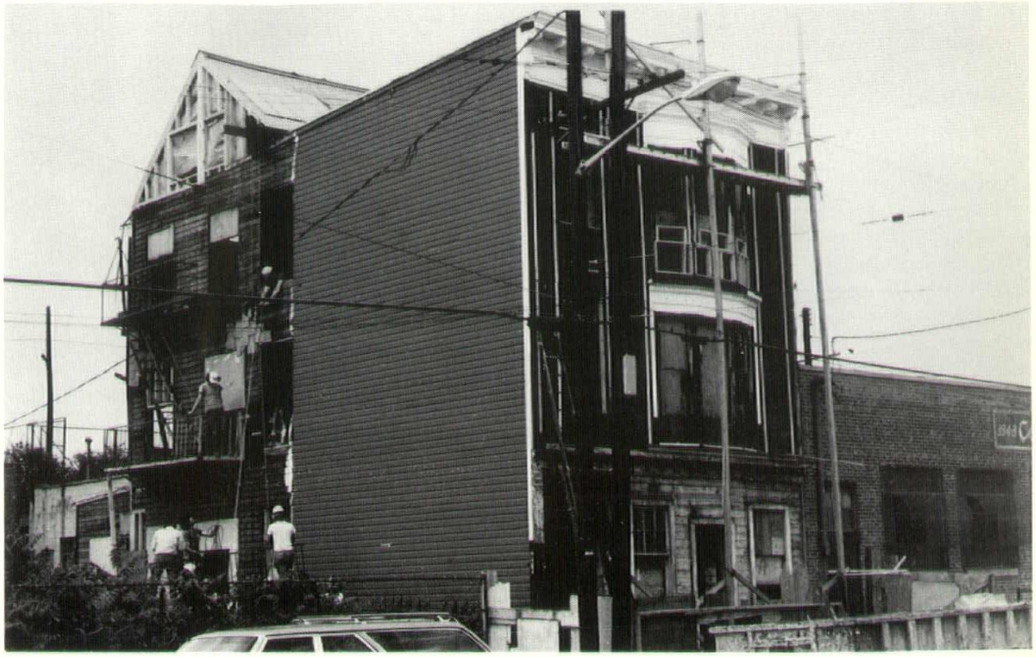
A business plan was proposed, working drawings executed and a building permit obtained. Construction began cleaning out the house and building with found materials as we had no funds. In May we obtained financing from private loan, NJIT, Foundation and energy research grant. The design changes continue as a good working relation with the mechanical engineers was established, and additional skills were found and learned.

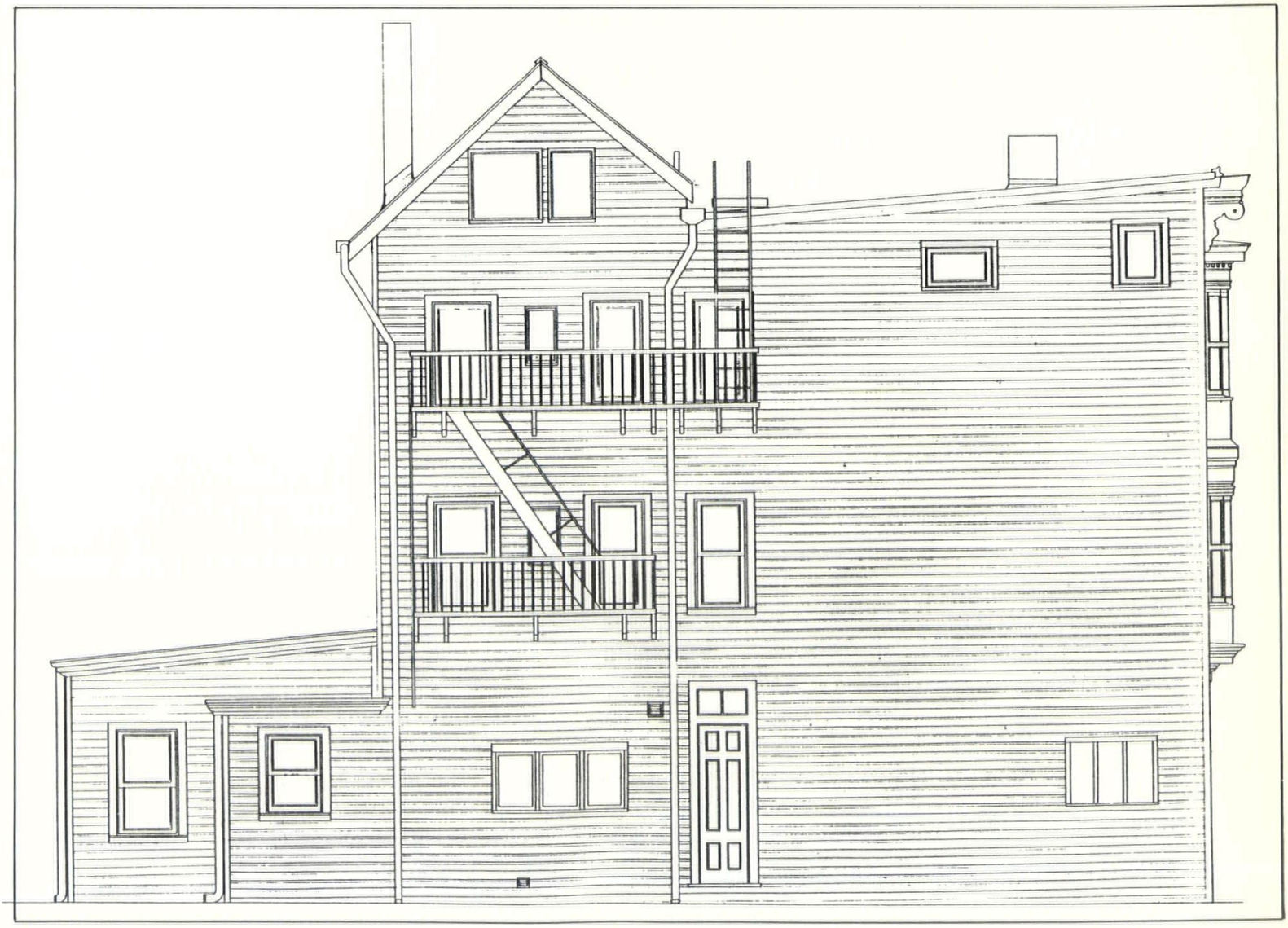


Problems of time (finishing the house on schedule), money (for salaries and materials), legal issues (the status and establishment of our non-profit corporation), personnel, (future interns for the group, and individual different roles within the project), have all been crucial. Each day's problems, events, personalities had both torn the group apart and brought it together. The Ferry Street Group is not a machine-woven, perfect fabric, its mends and patches give it character and strength like the house design itself where the original siding beneath the asphalt shingles has been painstakingly scraped, fitted and painted to be like new — in contrast to the Pella double-glazed energy efficient windows and new Sun Earth solar collectors. Every passage and part of the house has a history of the changes the Ferry Street group has been through.

The house has been called both fantastic and ordinary. It has been cursed and loved by the people who design and build it. But it exists...it breathes that life will return to Newark and other abandoned cities. It says that everyone of us has a hand in the making or breaking of our cities and neighborhoods; and when we join hands together, we the people will give the shape of things to come. ●







Office Profile

Rothe-Johnson Architects-Planners

Edison, N.J.

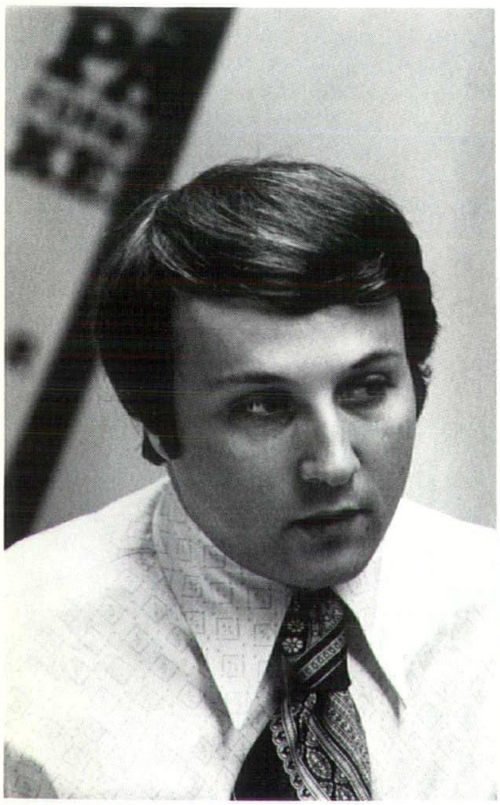
THE FIRM

Rothe-Johnson, Architects-Planners, is a diversified architectural and planning practice. Since its establishment in March, 1974, it has provided a full scope of professional services in connection with a wide range of project types whose total cost is in excess of 60 million dollars.

A firm of young professionals, educated and trained during a period of increased social and physical awareness of the built environment, Rothe-Johnson, in addition to offering comprehensive architectural services, deals with today's problems of energy conservation and management, environmental impact, and project economics. The firm's capabilities also include providing Project Programming, Site Feasibility Studies, Land Use Analysis, Space Utilization Studies, and Interior Design services.

The firm's principals, with over twenty years of experience, have been responsible for directing the development and construction of all building types, as well as for guiding the design of numerous projects which have won architectural awards.

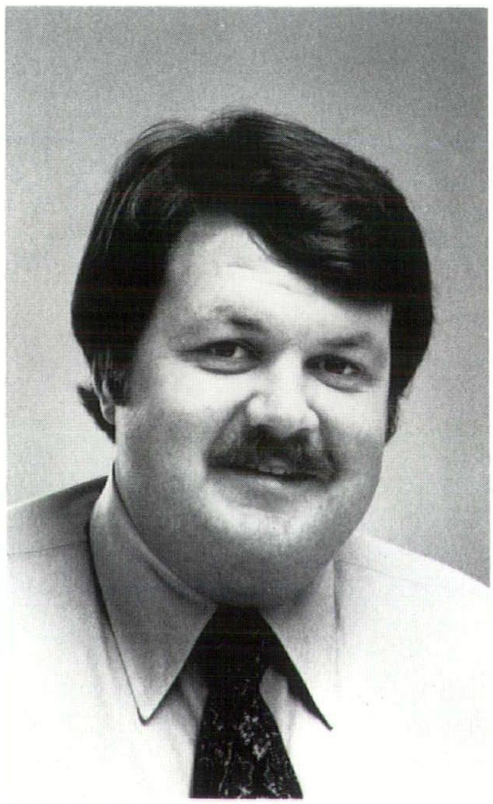
Stressing service to its clients while striving for architectural excellence, the firm is guided by the belief that when principles of good design are applied to a thorough understanding of client needs, the result will be architecture of outstanding quality affording distinction to both client and architect.



EDWARD N. ROTHE, AIA

Edward N. Rothe, a Partner in the firm of Rothe-Johnson, Architects-Planners, received his Bachelor of Architecture from Pratt Institute in 1965. In addition to his role as Principal in Charge of select projects, he is the firm's Director of Design.

Professional affiliations include architectural registrations in the states of New Jersey, Connecticut, North Carolina, and Florida; Holder of a National Council of Architectural Review Board certificate; a licensed Professional Planner in New Jersey; Corporate Member in the American Institute of Architects; Member of the New Jersey Society of Architects and the "Central Chapter" of the NJSA; and a Member of the NJSA Editorial Board.



ALLAN R. JOHNSON, AIA

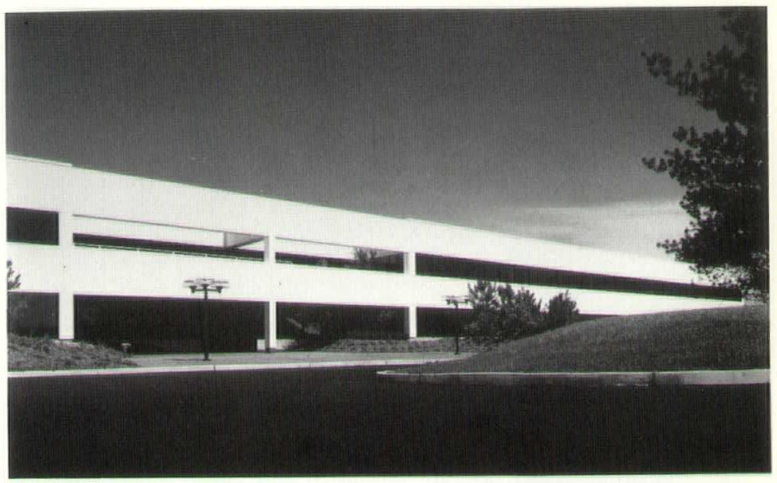
Allan R. Johnson, a Partner in the firm of Rothe-Johnson, Architects-Planners, received his Bachelor of Architecture from the University of Kentucky in 1967. In addition to his role as Principal in Charge of select projects, he is the firm's Director of Development.

Professional affiliations include architectural registrations in the states of New Jersey and Connecticut; Holder of a National Council of Architectural Review Board certificate; a licensed Professional Planner in New Jersey; Corporate Member in the American Institute of Architects; and Member of the New Jersey Society of Architects and the "Central Chapter" of the NJSA.

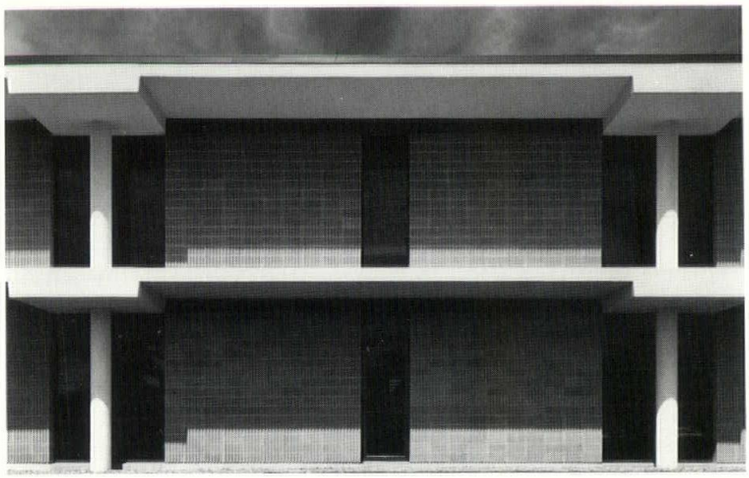
1. Turnpike Plaza, East Brunswick, N.J.
2. Facade detail, Cedar Knolls Office Building, Cedar Knolls, N.J.
3. Corporate Center, Piscataway, N.J.
4. Model, Sun Valley Condominiums, Charlotte, N.C.
5. Interior, Cedar Knolls Office Building.
6. Facade Detail, Turnpike Plaza.
7. Interior, Corporate Center.

Photo Credits:
Otto Baitz — photographs 1, 4, 6.
Guy Sussman — photographs 2, 3, 5, 7.

1

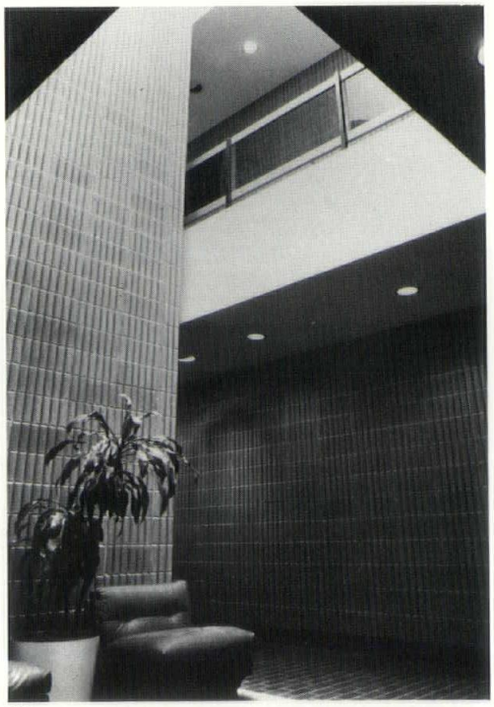


3

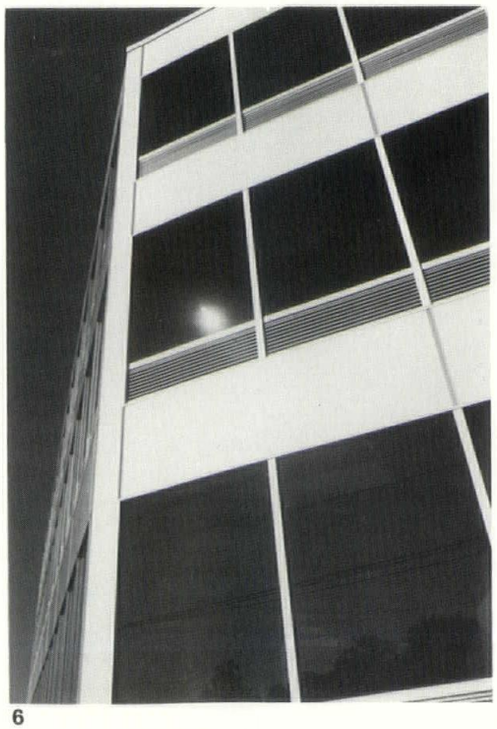


2

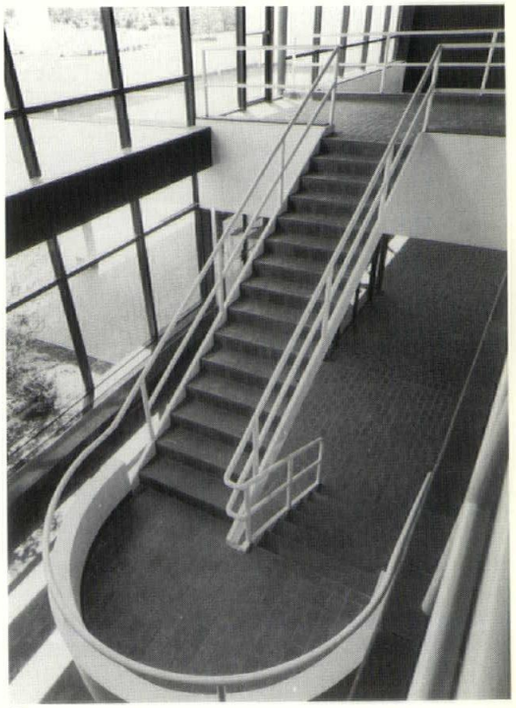
4



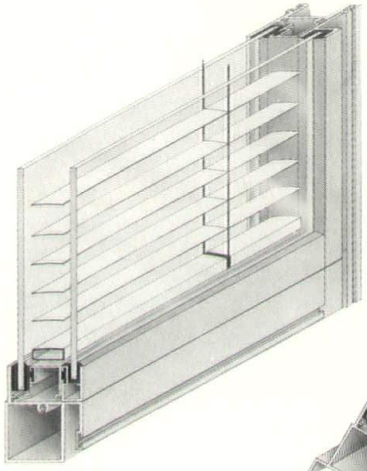
5



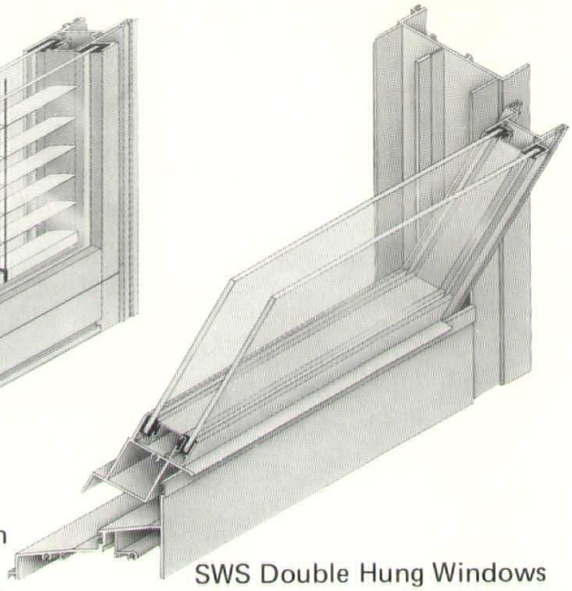
6



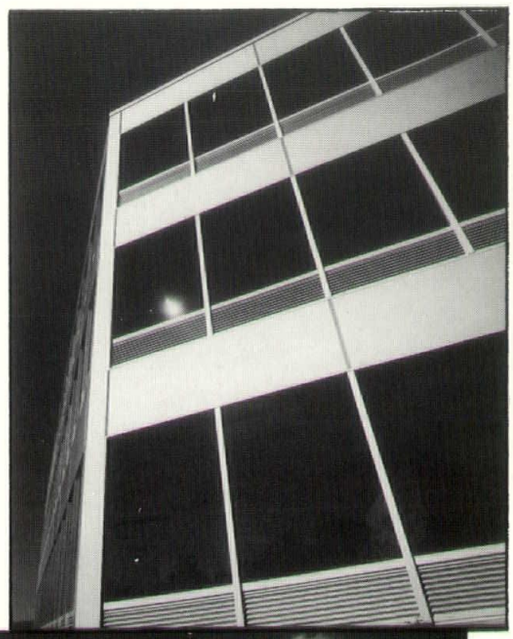
7

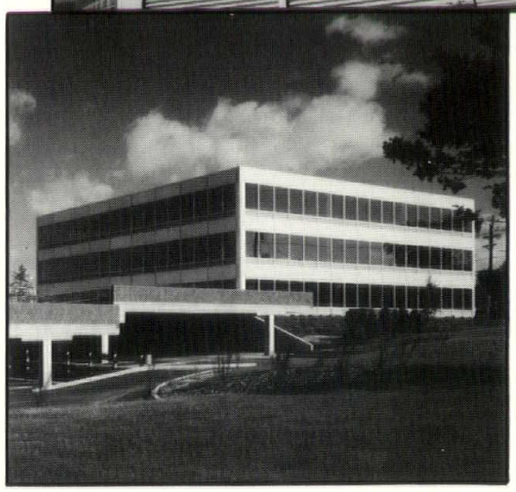


SWS Optional Enclosed Venetian Blinds conserve energy and greatly reduce maintenance costs and vandalism.



SWS Double Hung Windows offer unique optional features such as . . . Tilt-in sash for cleaning . . . dual glazed construction.





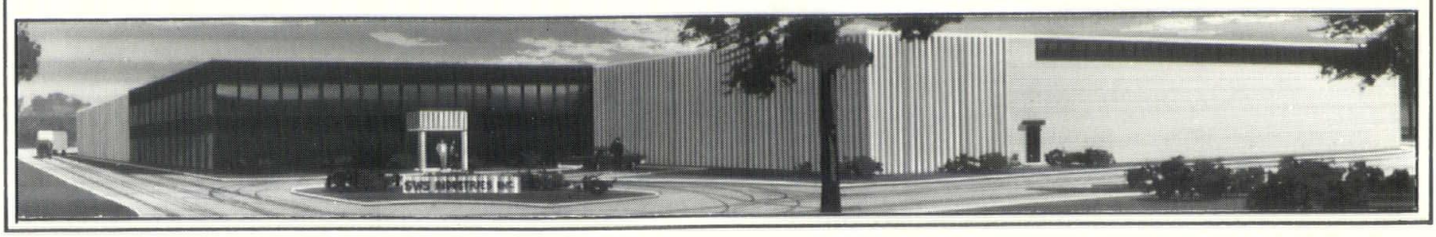
SWS Aluminum Windows-- designed, built, backed by Total Responsibility.

SWS offers a complete line of quality engineered monumental windows and curtain walls designed to meet energy conservation requirements.

From initial design to finished window the engineering, manufacturing and installation are professionally coordinated to insure a smooth running, totally satisfactory project. Backed by more than 30 years of know-how, with in-plant facilities for engineering, manufacturing and environment testing, plus shipping on SWS's own fleet of trucks and installation by its own mechanics.

Project: Turnpike Plaza, East Brunswick, N.J.
General Contractor: Frank Briscoe Company, Inc.
Architect: Rothe-Johnson, Architects-Planners
Curtain Walls: SWS Industries

SWS INDUSTRIES INC.
75 KNICKERBOCKER ROAD, MOONACHIE, NEW JERSEY 07074
PHONE (201) 939-2050



LET STEEL WORK FOR YOU!

There's little doubt that steel ranks second to none as an all-around construction material . . . one so versatile, durable and strong that no other medium even approaches its capacity on a pound for pound or square foot basis. Steel offers the architect and construction engineer unlimited design latitude . . . freedom to depart from the ordinary. No job is too big or too small. Steel enhances design potential, while continuing to provide the framework for inspired contemporary construction, as it has for the past 50 years.

But what of the men who translate the skill and vision of the architect and designer into living dimension . . . who employ years of knowhow to fabricate and erect today's cities and tomorrow's skylines from the mightiest metal of them all?

The Structural Steel and Ornamental Iron Association of New Jersey, is interested in sharing its technology and experience with steel firms in the industry and with the architectural field in building for the future. With a free exchange of ideas and the ability to discuss better ways to do things, the structural steel industry and the architectural profession can better serve the public.

All steel firms, architects and engineers who are interested in receiving a brochure about the Structural Steel & Ornamental Iron Association of New Jersey, Inc. may do so by writing to the S. S. and O. I. A. of N. J., 11 Cleveland Pl., Springfield, N.J. 07081.

STRUCTURAL STEEL AND ORNAMENTAL IRON INDUSTRY OF NEW JERSEY

11 Cleveland Place, Springfield, N.J. 07081 201/467-1625